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CLEARCUT ISSUES:
A RHETORICAL ANALYSIS OF ARGUMENTS FOR AND AGAINST LOGGING IN ALBERTA'S BOREAL FORESTS.

BY

CASSANDRA HARABA

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR

THE DEGREE OF MASTER OF ARTS

DEPARTMENT OF ENGLISH

EDMONTON, ALBERTA

FALL, 1994

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Clearcut Issues: A Rhetorical Analysis of the Arguments For and Against Logging in Alberta's Boreal Forests, submitted by Cassandra Haraba in partial fulfillment of the requirements for the degree of MASTER OF ARTS.

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Chris Bullock

Dr. Chris Bullock

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Dated August 31, 1994

To Dr. Hoffpauir, Aristotelian Extraordinaire,
who has helped me immeasurably
in my mad flight toward the M.A.

ABSTRACT

This thesis examines selected public literature concerning logging in Alberta's boreal forests. The documents are produced by the Alberta Forest Products Association, the provincial and federal departments of forestry, and two environmental groups: the Alberta Wilderness Association and the Western Canada Wilderness Committee. The three groups--industry, government, and environmentalists--can be organized into two camps: industry and government coalesce in favour of consumptive forestry practices, and environmentalists unite to oppose both consumptive forestry and the forest industry's self-presentation, and to endorse conservationism for the good of the earth and the good of our species. The divergent attitudes of the groups are founded, in part, on a lengthy intellectual history in Western culture, in which some philosophies separate man and nature, and others situate man in nature. In championing its chosen ideology, each group engages in persuasive discourse, the effectiveness of which can be understood through an application of the rational, ethical, and emotional appeals discussed in Aristotle's On Rhetoric, and the rhetorical fallacies examined in Edward P .J. Corbett's Classical Rhetoric for the Modern Student.

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Chapter One:

Introduction

Hew tree or not hew tree; that is the question. In Alberta, that is a very significant question, for the forest products industry is estimated to be the province's third most profitable enterprise, preceded only by food products and tourism; moreover, the forest industry is often touted as an economically-viable alternative to the dwindling oil industry. Forestry, however, is an emotional as well as an economic issue. Logging creates jobs but affects substantial regions of wilderness; consequently, public opinion on this issue tends to cluster along the poles of consumption and of conservation. Public opinion, moreover, plays a part in determining the future of Alberta's forests: people influence each other through conversation and debate, sanction forest companies in various ways, and cast ballots in favour of governmental parties with whose views of the environment they agree.

Writers of publications concerning the forest industry, then, attempt to influence the audience to their particular points of view and thus to exert their influence on the future of forestry in Alberta. In general, these writers tend to be polarized, arguing for one side only in the consumption-conservation debate. As a result, the concerned groups fall into two camps: the wood products industry and the provincial and federal departments of forestry defend logging in Alberta's boreal forests, while environmental groups, such as the Alberta Wilderness Association

and the Western Canada Wilderness Committee, oppose present forestry practices. Industry and government rhetors take the position that the effects of clearcutting can be compared to the favorable effects of forest fire, a position with which the environmentalists disagree. Industry and government defend widespread clearcutting by pointing to their extensive reforestation programs; environmentalists repudiate the need for human intervention in nature and propose that wild spaces, representative of each area of Alberta, be preserved from such intrusion now and forever. The environmentalists occasionally use their literature as a forum for debate, engaging in a dialectic with their opponents and criticizing not only their rivals' claims but the purpose of the claims and the language in which they are presented. Given the emotional and polemical nature of forest and forestry issues, it is difficult for the general reader with little knowledge of forest science to evaluate the arguments for and against logging in Alberta's boreal forests.

One method of assessing the debate, without the aid of more than basic biology, is to examine each side in the light of some of the rhetorical strategies enunciated in Aristotle's Rhetoric, and the pertinent rhetorical fallacies, catalogued through rhetoric's lengthy history and discussed in Edward Corbett's Classical Rhetoric for the Modern Student. The authors dealt with in this thesis may not have been aware of these classical categories; nevertheless, Aristotle and later rhetoricians identified and organized strategies and fallacies understood to be common to all rhetors. I have chosen an Aristotelian approach because I believe it is still

the most secure and reliable, having the longest and most profound effect on Western intellectual history, of any rhetorical system. I am especially impressed by the efforts of Corbett, his student Winifred Horner, and their successors, in reviving classical rhetoric for modern students. I have chosen Corbett, as the originator of such a classical revival, as my primary reference.

According to Aristotle, there are three types of rhetorical discourse: judicial, demonstrative, and deliberative, concerned with the past, present, and future, respectively. Judicial rhetoric deals with accusation and defence; demonstrative deals in praise and blame, and "is not so much concerned with persuading an audience as pleasing or inspiring it" (Corbett 29). For the most part, rhetors in industry, government, and environmentalism rely on deliberative discourse, which either exhorts the audience to, or dissuades it from, a particular point of view. Deliberative rhetors are not self-reflexive; in their discourse, they do not consider the possibility that they might be "advising things that are not advantageous [to the audience] or that they are dissuading [the audience] from what is beneficial" (Aristotle 49). The deliberative rhetor hopes to convince the audience to accept his point of view for one of two reasons: either because it concerns what is worthy--"'good in itself'" (133)--or because it concerns what is expedient, or "'good for us'" (133). A "good" in deliberative discourse is "whatever is chosen for itself and . . . what everything having perception or intelligence aims at" (63), including the elimination of evil or choice of the lesser of two evils.

Typically, man stylizes nature as either "good for us" or "good in itself"; these two treatments of nature, the intellectual history that underlies them, and their occurrence in the public literature examined in this thesis are the subject of Chapter Two. In brief, however, industry and government rhetors focus on the forest's extrinsic value; they follow a tradition, typified by such philosophers as Descartes and Hegel, which situates man as nature's master. On the other hand, environmentalists propose that nature has intrinsic value. They mingle a Darwinian and a Romantic view, suggesting that nature is good because it both represents an important, non-human will and offers meaning to the human enterprise. As well, each group defines itself within the tradition of stewardship, the conception of man's responsibility toward nature. Industrial and most governmental foresters propose that man is meant to consume the products of nature; environmentalists posit that we must conserve Creation.

Such a reliance on philosophy is a rhetorical strategy after Aristotle's own heart. He tells us that belief, not scientific fact, forms the basis of rhetoric:

> Even if we were to have the most exact knowledge, it would not be very easy for us in speaking to use it to persuade some audiences. Speech based on knowledge is teaching, but teaching is impossible [with some audiences]; rather, it is necessary for . . . speeches [as a whole] to be formed on the basis of common beliefs. (Aristotle 35)

Philosophical history forms a backdrop of common belief for the arguments of industry, government, and environmentalists. Despite its

fascination with universal truths, philosophy must ultimately stand on supposition and ask audiences for a leap of faith. Belief is not determined solely by the history of a philosophical idea, however. A rhetor can persuade an audience to accept his worldview through such rhetorical strategies as the three methods of persuasion Aristotle identifies in his Rhetoric: the appeal to reason, the appeal to emotion, and the appeal of the rhetor's character.

There are two types of reasoning: inductive and deductive. Inductive arguments reason from the particular to the general; in rhetoric, an inductive argument is founded on examples, which are used to support a general conclusion about the conditions the examples represent. A deductive argument, by contrast, reasons from general premises to a specific conclusion. The test of deductive reasoning developed by Aristotle is the logical syllogism, the most famous example of the logical syllogism being:

> All men are mortal.
> Socrates is a man.
> Therefore, Socrates is mortal.

A syllogism's validity hinges on its form, which cannot deviate from the following: All A is B; C is A; therefore, C is B. The truth of a syllogism hinges on the truth of the propositions. Errors in either validity or truth subvert a syllogism's conclusion.

Besides including syllogisms of improper form or incorrect propositions, the deductive arguments of the rhetors under consideration

are marred by a number of other fallacies of reason. Some arguments violate the law of contradiction, "based on the principle that a thing cannot at the same time be and not be, . . . [which] plays an important part as one of the means of logical proof in persuasive discourse" (Corbett 49). Other arguments are based on faulty analogies. An analogy is vulnerable because it persuades "on the grounds of probability; . . . [consequently,] the *degree* of probability . . . will be susceptible to challenge" (Corbett 77). Fallacies of induction include the faulty generalization, or "'jumping to a conclusion' from inadequate evidence" (Corbett 76); that is, evidence that is irrelevant, unrepresentative, or scanty. Associated with this fallacy is the faulty causal generalization. This occurs when the rhetor, arguing from a cause to an effect, fails to establish that the cause created the effect, or fails to "take into account that the same cause can produce diverse effects" (Corbett 76). When a rhetor argues from an effect to a cause, he might "assign an inadequate cause to an effect . . . [or] fail to take into account that there could be more than one cause for the same effect" (76). Besides making errors in reasoning, the authors of inductive arguments occasionally employ diversionary tactics, avoiding an uncomfortable topic by changing the subject. One such tactic is the "*red herring*, a term adopted from hunting . . . [which] refers to the practice of dragging a herring across the trace in order to lead the hounds astray from their pursuit of the prey" (Corbett 79). As well, some of the inductive arguments investigated contain "the fallacy of the half-truth . . . [in which] everything that is said is true, that is, verifiable as a fact; but because not enough is said, the total

picture is distorted" (72).

In their attempts to claim the reader's belief, most rhetors present themselves as authorities. Experts supporting the same side, however, might offer facts that disagree. In such a case of conflicting testimony, the critic must investigate whether any opinion is influenced by prejudice, whether one expert is more authoritative than another, whether the opinion is expressed in an illogical way, or "the assumptions behind the expressions of opinion . . . are vulnerable, . . . [or] reveal that the experts . . . are viewing the same matter from different points of view" (Corbett 126).

When not weakened by fallacies, the rational appeal "produces conviction about the conduciveness of the means to the desired end, . . . [By contrast,] the appeal to the emotions . . . makes the end seem desirable" (Corbett 87). Aristotle knew that a plea leading the audience to feel emotion can be highly effective; he therefore examined in detail the causes and results of anger and calmness, friendly feeling and enmity, fear and confidence, shame and shamelessness, kindliness and unkindliness, pity and indignation, envy and emulation. On one occasion, in the texts examined here, a rhetor appeals to the reader's sense of envy and emulation. But most common, in the public documents of industry, government, and environmentalists, is the appeal to fear, the efficacy of which has been examined in modern research into propaganda. Appeals to fear and other emotions are acceptable in rhetoric, as long as they are not unscrupulous; many of the emotional pleas concerning the boreal forests, however, become unscrupulous because they exemplify the

argument *ad populum*, "the tactic of appealing to irrational fears and prejudices, . . . [may] prevent audiences from squarely facing the issues" (Corbett 79).

The ethical appeal, or the appeal to the rhetor's good character, "can be the most effective kind of appeal. . . in rhetorical discourse, because here we deal with matters about which absolute certainty is impossible and opinions are divided" (Corbett 80). Audiences are inclined to believe someone they consider "fair-minded" (Aristotle 121); therefore, the rhetor can--and often must--win his audience's esteem via his discourse alone. The discourse must demonstrate that the rhetor has the qualities of wisdom, virtue, and good will; "speakers make mistakes in what they say or advise [through failure to exhibit] either all or one of these" (121). A rhetor appears wise if he exhibits a grasp of his subject, if he shows that he "knows and observes the principles of valid reasoning, that he is capable of viewing a situation in the proper perspective, . . . and that he has good taste and discriminating judgment" (Corbett 81). A rhetor appears virtuous if he maintains his integrity and repulses "unscrupulous tactics and specious reasoning" (81). And a rhetor demonstrates good will if his discourse shows his "sincere interest in the welfare of his audience and his readiness to sacrifice any self-aggrandizement that conflicts with the benefit of others" (81).

Ultimately, the persuasive power of a document--and the reflection of that document on the author's special-interest group--hinges upon a satisfactory ethical plea. On the one hand, readers are inclined to believe

in the words of speakers and writers that they feel drawn to. On the other hand, audiences tend quickly to disbelieve rhetors--and the groups they represent--that seem to be untrustworthy. Disbelief can be swift and unforgiving; it is no wonder that the ethical plea is considered the most fragile of the three appeals. It can be envisioned as situated at the apex of the triad of appeals because it depends, in part, on the success or failure of the other two: the wisdom or ignorance represented by a rational appeal and the benevolence or unscrupulousness intimated by an emotional plea. Clearly, an ethical appeal is a function of the other two appeals: a fallacious rational or emotional appeal can ruin an ethical endeavor by demonstrating that the rhetor is unreasonable or unscrupulous. As well, ambiguous language can create the impression that a rhetor is deceitful or self-interested.

Chapters Three, Four, and Five of this thesis examine the rational, emotional, and ethical appeals that appear in the discourse of the forest industry, the provincial and federal governments, and environmentalists, respectively. Industrial and governmental writers discuss forestry in very similar ways. Therefore, in the chapters that deal with industry and government, I have dismantled the arguments of various writers in each group and placed their components under the headings of rational, emotional, and ethical pleas. Moreover, I have grouped the arguments according to types of fallacies, to demonstrate the prevalence of certain rhetorical flaws in the overall arguments. The activists' work, by contrast, is more varied. Consequently, I have examined each activists' work

separately, looking for evidence of the three appeals in each article. In the Conclusion, I assess the meaning of my analysis to the public image of the three groups and to the future of forestry in general.

In summary, deliberative discourse generally appeals to beliefs about extrinsic or intrinsic value. In the debate over logging in Alberta's boreal forests, beliefs about extrinsic and intrinsic value of the forest are clearly bound up with the history of ideas in Western culture. But it is not enough for a rhetor to expect that an appeal to philosophical tradition will convince his audience to accept his point of view: he must argue well in order to hope to persuade his audience that his opinion is worth considering. Unfortunately, the rational and emotional pleas offered by industry, government, and activists are not only informed by beliefs but, often, damaged by fallacies. Rational and emotional appeals determine the success of an ethical plea: if the first two are undermined by fallacies, the latter will certainly fail. If the rational and emotional pleas are not fallacious, the rhetor's character will seem trustworthy--and audiences tend to believe those they feel they can trust. Thus, by evaluating the writers' adherence to, or violation of, the most ancient laws of rhetoric, the reader can begin to form an opinion of the effectiveness of the arguments from the various groups. As well, such an evaluation might offer writers the chance to improve their own efforts to persuade.

Chapter Two:

Nature and Knowledge in the West: The History of Our Attitudes Toward Nature

Aristotle proposed that rhetorical events are founded on common beliefs, not empirical fact. Common belief certainly informs the spirit of public literature about forestry produced by the forest industry, the provincial and federal governments, and environmental groups; in fact, the writers recognize that their views are based on assumptions, not certainties. Industrial forester David Brown says of logging, "the whole issue is emotional." Activist David Orton notes that

> the basic forestry conflicts are over values....Is wood production the supreme value, or is something else? How should we use the forest? Is 'we' defined in a human-centred manner? or defined from the perspective of deep ecology, so that it includes all the plants, animals and micro-organisms, and the forest is valued in its own right?

Philosophers have pondered questions about man's relationship with the natural world throughout human history. Professors of Philosophy John Passmore and William Blackstone, and author Alexander Gode-Von Aesch, provide us with reliable chronicles of human attitudes toward the environment. These writers detail shared visions of the meaning of nature that have evolved through man's intellectual history; such shared visions are visible in the texts produced by the three groups concerned with Alberta's forests. Industrial and governmental rhetors tend to treat

nature as extrinsically good, valuable because it can increase our material comfort. For the most part, they subscribe to three views of the environment, alone or in various combinations: (1) "matter is inert, passive, man's relationship to it is that of a" reformer (Passmore 212); (2) man is the steward of the natural world, and (3) man is both steward and creator of the world, which exists "only *in potentia*, as something which it is man's task to help to actualize" (212) and infuse with spiritual life. These attitudes grew out of the early definition of nature as a gift to man, and into various Western ideologies that, for the sake of simplicity, can be defined as Cartesian, Iamblichan, and Hegelian. Environmentalists, by contrast, tend to treat nature first as intrinsically good, valuable in itself, and second as extrinsically good, valuable for what its intrinsic merit can offer the human spirit. They seem to agree with their opponents that man is meant to act as the earth's steward, but they take that term to mean that man must preserve nature, not recreate it. The environmentalists subscribe to a view that began with the Epicureans and took hold after Charles Darwin: that man is simply an animal eking out an existence alongside the other creatures of the earth. Environmentalists also take the romantic view that nature is valuable for what it represents to the human spirit and imagination and must be conserved to protect what is best in our species.

The conception that the natural world was created for man's benefit and mastery arose after the Greek Enlightenment. Before, the concept of *hubris* had prevented philosophers and scientists from considering man

dominant over the world; this would have deified him, a process discouraged, for instance, by the example of Prometheus. The gods--not man--ruled nature, and ruled man along with it. The Enlightenment, however, rejected the notion of *hubris* and enabled an anthropocentricism justified by man's rationality. Philosophers developed logical systems that limited the moral universe to the human creature and situated nature within man himself; Stoics, for instance, posited that "the purpose of life was to live in accordance with . . . the divine will or reason. Because reason makes us truly human, that also meant to live in accordance with our own nature" (Johnson 15). Since man was now idolized and separated from nature, nature's divinity had to be denied; hence, the non-human world was now considered to have been created to serve mankind. Chrysippus, for example, went so far as to argue that even "the flea is useful to man because he wakes the sluggard from his sleep" (Passmore 15).

Having been introduced to the world by Greek science, the conception of nature as a gift to mankind extended into Christianity, which preferred Greek anthropocentrism to the Old Testament assertion that nature is intrinsically valuable. Admittedly, Hebrew philosophy begins with an assumption that automatically separates man and nature: it posits that natural processes are not affected by direct entreaty but that man's prayers are heard by "an anthropomorphically-conceived God" (Passmore 208) with whom man has more in common than with any other creature on earth. Thus, although Judaism was surrounded by

eastern religions in which God was immanent, in Hebraic belief God was transcendent and His relationship with man was the most important aspect of human life. Peace did not have to be made with the spirit of an animal or plant before killing it (intriguingly, a practice maintained even "as late as the nineteenth century" by German foresters [Passmore 10]).

The Old Testament exhorts man to rule over nature, which suggests that nature is not sacred. God meant man to have "dominion over...all the earth and over every creeping thing that creepeth upon the earth" (Ge. 1: 26), and commanded man to "be fruitful, and multiply, replenish the earth and subdue it" (Ge. 1: 28). After the Fall, man was told, "the fear of you and the dread of you shall be upon...all that moveth upon the earth and upon all the fishes of the sea: into your hand are they delivered" (Ge. 9: 2), a caveat that force would now replace natural authority in man's governance over the world.

The Old Testament, however, is not as anthropocentric as it might first appear. It "does not set up an unbridgeable gap between man" and nature (Passmore 12); rather, it imbues nature with moral importance. The days of Creation before man came on the scene show us that nature, good in and of itself before man appeared to appreciate it, exists for the glory of God, not for the service of man. Noah's ark was intended to save all the species of the earth; Psalm 104 tells us that God protects all creatures: "The high hills are a refuge for the wild goats, and the rocks for the conies" (Psalm 104), and lions "seek their meat from God." John Passmore tells us that the prevalent Jewish attitude toward nature is

summed up by Maimonides, the Jewish orthodox philosopher, who said: "'It should not be believed...that all beings exist for the sake of the existence of man....All the other beings, too, have been intended for their own sakes and not for the sake of something else'" (Passmore 12).

New Testament tenets have more in common with Greek than with Hebrew thought. The Christian God became human in imitation of the pantheon; the Jewish God could not have followed suit. Christianity accepted Platonic dualism, which separates the body and spirit: man is both physical and spiritual, material and immaterial, natural (inhabiting a body) and supernatural (a perfect being trapped on the imperfect, physical plane, returning after death to his Creator). Moreover, whereas the Old Testament invites mankind to a holistic view of Creation, the New joins Greek science in the belief that nature exists only to serve man's interests. This can be understood as an offshoot of Jewish thought: "while the rejection of the view that nature is sacred does not justify an irresponsible attitude toward it, it at least leaves the way open to that attitude, does not at once condemn it as sacreligious" (Passmore 9). More importantly, however, Christianity's man-centredness, in imitation of Greek science, has encouraged man to consider himself the master of the world and the unique recipient of its bounty. The natural world is, for the most part, considered inert material intended for man's use.

The belief that the world was designed solely for man's use is visible in the writings of the church fathers. Paul examines Deuteronomy's "Thou shalt not muzzle the mouth of the ox that treadeth out the corn";

his question "Does God take care for oxen?" (1 Cor. 9:9) implies an emphatic "no." Augustine tells us that all things exist for the benefit of man, the rational species. The way in which man treats the earth is secondary to his motivating principle, which ought to be the love of God. Thomas Aquinas, in Summa contra Gentiles, agrees that the world exists "'for man's use in the natural order'" (Johnson 19). The early theologians promoted the concept that the earth was made for mankind. Calvin considered man a valued guest of the earth, expected to make full use of what he finds around him; God clearly "'created all things for man's sake'" (Passmore 13). George Herbert of the Church of England hoped to prove that nature was intended for man's use by culling Biblical references to man as the servant of God and correlating the relationships between man and God and those between nature and man.

Philosopher Immanuel Kant agreed with Augustine that God created all things for man's benefit because God had given man reason: in his Critique of Teleological Judgment Kant points out that "'as the single being upon earth that possesses understanding...[man] is certainly titular lord of nature and, supposing we regard nature as a teleological system, he is born to be its ultimate end'" (Passmore 15). John Stewart Mill in Nature warns against "loose and sentimental talk about 'harmony with nature'" and the notion of emulating nature's ways (39); man is meant to reform nature for his own use. Earlier, René Descartes had used the principle of human reason to establish the inertness of matter. On the one hand, Descartes' radical subjectivism combined spirituality (souls only are

rational; I am rational and therefore must be the only creature with a soul) and anthropocentrism (since I can be certain only of my own existence, the external world is less real than myself). On the other hand, Descartes believed that the real world must exist to impress itself upon his senses and that it could only be understood mathematically. Nature according to Descartes is morally neutral: man is free to improve the world for his own use.

In the tradition of Greek science and Christian philosophy, then, nature is inert material intended solely for man's use. Another ideology, however, posits that man is meant to care for the world. This line of thought originated with the Romans: "The tradition of 'stewardship'. . . dates back to the post-Platonic philosophers of the Roman Empire" (Passmore 28). In the third century A.D. Iamblichus, influenced by Plato's Phaedrus, posited that man takes on material reality in order to care for--and order--the world in God's name. The philosophy of stewardship eventually came to locate man as both caretaker and creator of his environment; in this view, "it is man's task to help to actualize" nature's potential (Passmore 212). This perspective on the natural world can be reconciled with Christianity via the denial of original sin and an insistence on the achievement of righteousness through free will. Pelagius, a British or Irish monk excommunicated *circa* 416 A.D., introduced this manner of thinking and contributed to a portrait of man as not "essentially corrupt, but as having the duty to create, by his own efforts, a second nature--. . . a second Garden of Eden" (Passmore 20). Man

is meant to realize the earth's potential; nature becomes a project around which the laborer constructs a moral framework. Man--the created--now becomes the creator.

Science contributed to the representation of man as creator of his own destiny. Francis Bacon, writing in the late sixteenth and early seventeenth centuries, posited that man was meant to amass power through knowledge and ultimately to restore himself to his prelapsarian condition. There were now two saviours: Christ and science.

> Bacon still wrote, in one sense, within the Judeo-Christian tradition. He thought of his projects for the advancement of science as restoring man to his prelapsarian dominion over the animals, that dominion which was ceremonially symbolized when God called upon Adam to give them names. . . . With Pelagius, Bacon emphasized what man could achieve by his own efforts; against Augustine, he reduces to a minimum the corrupting effects of Adam's sin. (Passmore 19)

Western philosophy endorsed the scientific view of man's efficacy. John Locke's rationalistic and vigorous refutation of original sin helped entrench man's freedom and duty to recreate the world. The principle of utility further fused nature and ethics, exhorting man to look to himself to determine the best use of nature: "public interest includes optimum living conditions for all human beings, those now existing and those yet to come" (Blackstone 26).

To the German idealists of nineteenth century such as Hegel and Fichte, the natural world needs human help to "enfuse and ennoble . . . [it] with human spirit and value" (Johnson 34). Nature, divorced from

rationality, is indeterminate until cultivated by mankind; according to this line of thought, "the nonhuman world is not only without any moral significance in its own right, but . . . does not even have its own being" (Johnson 35). Man is truly the creator of the world, even breathing into it the breath of life. Herbert Marcuse, who accepted the German Idealist tradition, argued that gardens and parks show the liberating and humanizing principle of man's relationship to nature. The seventeenth-century formal garden shows man's mastery over nature; the eighteenth-century gardener was meant to "take his materials from nature . . . but to arrange them in a better composition" (Passmore 36); and the nineteenth-century garden made nature less alien and thus more intelligible to the human viewer.

Pamphlets concerning forestry that are produced by the wood-products industry and the federal and provincial governments often intermingle the beliefs that the natural world is waiting to be harnessed for man's use, that man ought to act as nature's steward, and that nature awaits the liberating human touch; these beliefs can be named the Cartesian, Iamblichan, and Hegelian views of nature. Such conceptions, which focus on nature's extrinsic value, have little in common with the ecological views of environmentalists, which imbue nature with both intrinsic and extrinsic value. The activists' views can be defined as Darwinian and Romantic-Iamblichan.

The Epicureans, who opposed the Stoic view that man is a superior species, fashioned an early concept of natural selection in which man is no

different than any other species, plant or animal, in his position in the world. Lucretius held that the world's imperfections contradict the idea that it was created by a god expressly to be useful to man. Celsus asserted that "'everything was made just as much for the irrational animals as for men'" (Passmore 16). Such a view was strengthened by the Copernican model of the universe; later, Darwinism further entrenched man as one species in a complex world. Along with Epicureanism, Darwinism entails "thinking of men . . . as not only using but being used by the living things which surround them" (Passmore 14). Nature has its own meaning and importance in the scheme of things.

The vision of man-in-nature was mitigated by a spirituality that infused eighteenth-century Romantic science. As I have said, the German Idealists believed that man must subdue nature; Fichte, for instance, insisted that the "time would come when nature would be 'subjected and transformed into an obedient and passive instrument'" (Gode-Von Aesch 29). Other romantics, however, contrasted this belief with the view that man is

> a product of the world of the senses from which only the highest ethical ideals can grant redemption. An *imperium hominis* of this sort has evidently little to do with the endeavor to usurp mastery over nature for purposes of utilitarian exploitation. On the contrary, it is a rule that presupposes wisdom rather than power and is quite compatible with the Goethean attitude which has been characterized as the exact opposite of those trends in the sciences 'which strive to subject nature intellectually even though that be possible only by destroying her.' (29)

Nature is not only intrinsically valuable; our relationship with it has meaning, an effect on the integrity of our species. Gode-Von Aesch tells us the connection between intrinsic and extrinsic value was enunciated by Einstein in this way: "'The basis of all scientific work . . . is the conviction that the world is an ordered and comprehensive entity, which is a religious sentiment. My religious feeling is a humble amazement at the order revealed in the small patch of reality to which our feeble intelligence is equal'" (16). This is "an ideal conception, in which religion becomes the rock underneath the superstructure of science" (16). The environmentalists whose work is examined in this thesis seem to agree that the relationship between man and nature affects our species. They define stewardship differently from most of the professional foresters: in the activists' view, man is meant to conserve other species in order to protect what is best about his own.

Despite--or perhaps because of--philosophical differences, industrial foresters and environmentalists alike engage in deliberative discourse. Each group hopes to persuade the reader to agree with its point of view, arguing that nature should be considered either useful to us or worthy in and of itself. (Intriguingly, as we have seen, these positions are both an aspect of deliberative discourse and lie at the very roots of the philosophical split between consumption and conservation.) It is not surprising that the question that asks how we should treat Alberta's boreal forests is a question of varying ideologies, an issue of values. A number of authors from industry, government, and environmental groups agree that

"the best use of the forest and the trade-off between economic, environmental and social values is subjective and is based on value judgments" ("Sustainable Forestry"). The provincial government states the problem in more utilitarian terms: "Everyone may not be fully satisfied with planning decisions, but through cooperation and compromise the majority of Albertans will benefit" (Alberta's Public Land and Resources: Planning for the Future).

Such compromise must, in the views of both industry and government, begin with the Cartesian assumption that trees ought to be logged to increase man's material comfort. Many foresters frequently claim that forests are a renewable resource, inert material meant for man's use that can easily be replenished. Even if the rhetors do not enunciate this viewpoint, they tacitly suggest such a position simply by defending the present forestry practices of the wood-products industry. Often, however, this Cartesian vision is combined with, and mitigated by, Iamblichan and Hegelian viewpoints. Man is perfectly capable of caring for the world; and, in fact, nature actually requires man to periodically clear the trees from the forests, since nature herself cannot properly fulfill the task.

Industrial foresters frequently take the view that man ought to act as earth's steward and is quite capable of caring for the world without causing damage. Foresters can remove trees and put them back just as nature does through fire and post-burn conditions. Reforestation: Planning for our Future Forests tells us: "the clear cut harvest system . . .

emulates forest fires" by making an area "easily accessible for subsequent tasks including site preparation and replanting." Alberta-Pacific's Forestry Discussion Paper proposes that the company's logging method of choice "would include variation in cutblock size, shape, distribution and retention of natural diversity all within the bounds of natural variation, similar to structural factors produced by fire" ("Ecosystem Management").

Clearcutting: Industry Expert Addresses Clear-Cutting Issues, by Daishowa forester Wayne Thorp, mingles the Cartesian and Hegelian points of view. Forestry ought to be practiced to approximate natural forces:

> Our forests have burned at more or less frequent intervals for many thousands of years. Recognition of this is particularly important in northern Alberta where over 80 per cent of the area has had a forest fire in the last 80 years.
>
> Therefore,...what Mother Nature provides us now is not a first growth forest, but rather a sustained yield forest. Most of it has been reforested naturally after having been clear-cut in nature's way by fire.
>
> There are lessons for us in the result.

The lessons teach us that if we do not mimic fire conditions we will upset the balance of nature. For example, poplar stands generally decay after half a century, yielding to spruce. However, "Mother Nature prevented this from happening with the use of fire causing suckering and eliminating the spruce's chances of taking over the site. From a poplar management standpoint, harvesting accomplishes the same objectives through patch clearcuts." Thorp notes that the act of preparing a site for reforestation, "usually with crawler tractors mixing the moss and soil, . . . is an imitation

of the . . . fires that Mother Nature used to sustain" the forests.

Thorp relies on "Mother Nature" to prove the wisdom of forestry practices. He demonstrates that foresters are right to follow nature's lead; but, on the other hand, he suggests that foresters are also right to lead nature. To the concern that "clear-cutting and subsequent reforestation practices will create a monoculture thereby eliminating the ecological diversity that Mother Nature provides," Thorp answers: "On the contrary, clear-cutting produces less of a monoculture than fires do in nature." Mother Nature, to whom foresters have previously looked for guidance, is now inferior to her students, who can produce greater biodiversity than she can herself.

The brochures published by industrial foresters sometimes combine the Cartesian, Iamblichan, and Hegelian viewpoints. For example, the pamphlet Key Issues Relating to the Alberta Forest Industry, published by the Alberta Forest Products Association, begins by taking a Cartesian perspective. The rhetor tells us that forests offer "sites for oil and gas development, cattle grazing, recreation and tourism development, wildlife and conservation areas--in addition to . . . [opportunities for] use by the forest industry" (Key Issues). The forest is important for its extrinsic values, which include, by association, wildlife and conservation areas. Moreover, trees themselves offer benefits clearly useful to man: "Forests are also valued for purifying the air by trapping carbon and releasing oxygen, as well as . . . [for] their role in regulating . . . spring melt-off that flows into watercourses, helping to prevent cycles of flood and drought."

Key Issues combines this Cartesian view with the Iamblichan belief that man must act as steward of the earth. He suggests that the forest industry, quite rightly, carefully imitates nature in its logging practices: "Opening . . . [a] site to sunlight by clearcutting simulates the open condition that results after fire," which benefits aspen, pine and spruce. To his Cartesian-Iamblichan view, the rhetor adds the Hegelian belief that man has an obligation to tend the earth because nature cannot actualize its own potential. Nature, we are told, does not promote regular regeneration of the forest. Trees often grow old and die, whereas "harvesting and reforestation operations utilize overmature stands that are susceptible to decay, insect and wind damage, and create young, healthy tree stands."

The federal department of forestry, like the forest industry, embraces the view that man is caretaker of the world and can conform his logging practices to natural events, such as fire. Forestry Canada's Canadian Perspective on Clearcutting states that "clearcutting mimics the natural mechanisms of forest renewal such as wildfire, particularly in the boreal forest. Clearcut areas are also suitable for natural regeneration by seeds from surrounding forests, particularly for species . . . that need full sunlight." This particular text has Hegelian overtones. Nature, we are told, cannot care for itself. Clearcutting is essential to correct nature's mistakes: "the largest clearcuts are often carried out as a sanitary measure to salvage forests that have been damaged by insects, disease, fire or wind. And, in some cases, clearcuts are used to arrest the outbreak of forest fires."

Like its federal counterpart, the Alberta forestry department frequently promotes a Hegelian perspective on forests and forestry. Man must act as caretaker to the forests because, "without a management and harvesting program, forests can become dense and unsuitable for people and wildlife or, worse, a potential fire hazard" (A Growing Opportunity: Alberta's Forest Resources). Untended trees that become old also become useless:

> Scarpe Creek is an example of old growth forest left in its natural state. Due to pressure from wilderness advocates, management was not applied to this area. Decimated by an insect infestation in the early 1980s, it exists today as a tract of forest land with limited use. It will remain that way for many years to come. (Protected Areas in Alberta's Mountain Forests)

As well, post-harvest reforestation is essential because "nature's method of renewing the forest does not always satisfy provincial regulations for regrowth" (Reforestation: Planning for our Future Forests).

Strains of the German Idealist tradition are particularly evident in a garden metaphor employed by the Alberta Forest Service. Owners of treed land are told: "If you don't manage your woodlot, nature will manage it for you as she manages an untended garden. If left untended, your woodlot will be less valuable and less attractive than it could be with minimal management" (Woodlot Management). Depicting forests as gardens locates them within the value systems of civilization. Gardens are typically created by humans for human use and require constant maintenance; humans fail their communities and embarrass themselves

if they do not control their gardens. Thus, man must master and liberate nature, must subdue and cultivate the nonhuman world in order to live in it with pride. Without man's influence forests become less useful and beautiful; left alone, nature does not fulfill its potential: "Unmanaged woodlots provide some benefits but you can increase these benefits with management." (Said benefits include the number of wildlife on the land, the recreational uses to which it can be put, the crops for which it might be cultivated. Moreover, when properly managed, trees help maintain the calibre of water and soil and increase the economic value of the land).

Perhaps the logical extension of the philosophy that man has the right and duty to create a second Eden is lodged in the science of genetics. Francis Bacon would wholeheartedly have supported the provincial government's research into breeding trees for desired traits; it represents man's dominion over the world through empiricism. Genetic experiments express the belief that nature is imperfect and that man ought to cooperate with nature to recreate the world in his own image, for his own benefit. Such a belief is evident in the expectation that "Alberta's reforestation programs . . . [will] benefit from ongoing research on varieties of genetically superior trees. Improved varieties of trees being developed will improve timber yield and quality and create . . . [hardier] trees" (Forests for the Future). The goal of a tree-breeder is "a superior tree--taller, faster growing, straighter, with fewer branches" (A Growing Opportunity). These will increase "the value of the forest."

The faith in improved forests is best observed in the pamphlet

Genetics and Tree Improvement: Better Forests for the Future:

government scientists hope to "establish new forests that will produce wood of better quality in less time." Researchers

> will develop trees whose branches will be thin and grow from the trunk at a 90 degree angle. Old branches will die off regularly. Foresters call this natural pruning. The wood will have a higher density and strength.
>
> Cone crops will be plentiful and the trees will mature in 50 to 60 years compared to the 80 to 120 years they require now. Many of these trees will be grown in forests where intensive management techniques will be applied such as spacing, tending, fertilizing, etc.

Forests will be tended as scrupulously as gardens; moreover, the foresters will transplant cuttings from other gardens: "the suitability is . . . being evaluated for the growth in Alberta of such exotic trees as Siberian larch, Scotch pine and Ponderosa pine."

On rare occasion, a government rhetor takes a Romantic view. Forests are not only important materially but also spiritually; they "provide us not only with material goods, but also solitude, tranquility and serenity. They are a home for wildlife, and continue to be visited and enjoyed by many Albertans each year" (A Growing Opportunity). In an attempt to convince owners of treed areas not to clearcut their land, the government points out the effect of logging on the quality of life:

> Landowners in forested areas sometimes clear their land thinking that there will always be trees on the adjacent property. But this can lead to a landscape barren of trees. And when all the bush is gone, the whole community loses, and the first one who cleared the trees contributed as much to the loss as the last one. (Logging on Private Land)

Environmentalists would agree with this position. They oppose the energetic reformation of wild spaces, expressing far less faith than industry and government in man's decision--and ability--to manage the earth. For the most part, environmentalists reject both the Cartesian conception of nature as the raw material with which man creates material comfort, and the Hegelian philosophy which suggests that man must co-operate with nature in order to perfect it. The activists do, however, accept the responsibility of stewardship, although in a different form than the stewardship promoted by the industry. The activists' version of stewardship is bound up with a romantic vision, which makes it a Romantic-Iamblichan conception. Management of the forests is not in aid of material production; rather it is an enormous trust, which man must carry out with great solemnity in the name of nature. An understanding of the environment is important in itself and in what it offers the human spirit: "'the order it reveals in the world is something beautiful, tragic, sympathetic to the mind'" (Gode-Von Aesch 20). Says one activist: "plants, animals, soil, water, even weather are all intricately linked . . . in a web of life whose elegance is both breathtaking and fragile. To manage such an ecosystem for perpetual sustained yield of all those various things should be an exercise in humility, caution, care and subtlety" (Forests . . . for Never 4).

Environmentalists tend to mingle the Romantic-Iamblichan and Darwinian points of view, demonstrated in the "Canadian Wilderness

Charter," a manifesto of ecological intentions. The "Charter" begins with the Darwinian assertion that "humankind is but one of millions of species sharing planet Earth and . . . the future of the Earth is severely threatened by the activities of this single species." It then advocates romantic stewardship, noting that "Canada's remaining wild places, be they land or water, merit protection for their inherent value" and recognizing that nature is ultimately linked to the human condition because it "meets an intrinsic human need for spiritual rekindling and artistic inspiration."

Other environmentalists agree that it is a mistake to intervene in the nonhuman world, but that it is essential to protect the earth, because our psyches cannot survive without nature. Says Kevin Van Tighem:

> we are inseparable from our environment. . . . By seeking to preserve some of Alberta's natural diversity, we do not defend something abstract or idealized. We defend a part of ourselves. . . --creation as it is inscribed upon our souls. . . . There must be places to which people can return . . . to live in a basic way as citizens of the organic earth sleeping in the sun, hunting, fishing, eating berries, drowning, fleeing from bears or shadows; to experience being cold, . . . frightened, exhilarated, . . . and utterly humbled . . . ; to be woven into a work of art so immense . . . that we can never hope to comprehend the Art, let alone the Artist. ("Posterity Will Bless Us")

Likewise, Newton and Pachal write, in "New Hope for Wilderness": "It is within wilderness that we, as society, learn that we are not full masters of the Earth; that there are processes at work older than humankind itself and far beyond our present . . . knowledge." We should not impose ourselves upon nature because we can neither understand nor improve it; rather, knowledge of nature improves us by teaching us about our

spiritual condition, by teaching us to understand ourselves in relation to the world.

Newton and Pachal quote Henry David Thoreau, who said: "In wildness is the preservation of the world." This phrase has a double meaning. On the one hand, conservation represents humankind's recognition of nature's value. On the other hand, preserving nature also preserves the human world: "in primeval, wild places we can find a sense of place and time. . . . These untamed places are a symbol of freedom and a place for the stimulation of imaginative thought. They are cherished as . . . a reservoir of hope" (Newton and Pachal.) The existence of wilderness will prevent "the domestication and loss of the human spirit."

Common beliefs form the foundation of the environmentalists' conception of the natural world, just as common beliefs underlie the views of nature evinced by the industrial foresters and governmental rhetors in public documents about forestry in Alberta. The activists take a view that combines Darwinism, Romanticism, and the concept of stewardship. Their Darwinian vision esteems nature for its own merit; the Romantic tradition values nature for what it offers the human spirit; their concept of stewardship, therefore, suggests that we must protect nature's intrinsic and extrinsic merit, for the sake of the world and our species. The activists are opposed by industry and government, whose ideologies range between the beliefs that we ought to take what we need from nature, that we must take care of nature so that we can continue to

get what we need from it, and that we must co-operate with nature in order to perfect it for our own use. The intellectual history preceding such conceptions of the environment has tended to focus on nature's extrinsic values.

It is not sufficient, though, for a rhetor to invoke, however implicitly, philosophical tradition in the hope that the reader will agree with the beliefs underlying his arguments. The other elements of a successful rhetorical endeavor must be present for the audience to be properly persuaded. Environmentalists and industrial and governmental foresters employ deliberative discourse, which serves their ideologies well: the deliberative rhetor hopes to convince the audience to accept his point of view either because it concerns what is intrinsically good, or because it deals with what is expedient, or extrinsically good. Moreover, each author concerned with logging in Alberta's boreal forests attempts to convince the reader of the virtues of his group's philosophy through the strategies that, alone or together, according to Aristotle, accompany every rhetorical attempt: the rational, emotional, and ethical appeals.

Chapter Three:

The Rhetoric of the Forest Industry

This chapter will examine the rhetorical strengths and weaknesses of four documents produced by the wood-products industry: the Forestry Discussion Paper, Clearcutting: Industry Expert Addresses Clear-Cutting Issues, Reforestation: Planning for our Future Forests, and Key Issues Relating to the Alberta Forest Industry. The Forestry Discussion Paper is an eight-page tabloid published in July 1993 by Alberta-Pacific Forest Industries and distributed by Alberta-Pacific and the provincial department of forestry. The Forestry Discussion Paper is meant to solicit recommendations for the Forest Management Task Force--composed of environmentalists, aboriginals, trappers and outfitters, the provincial government, and Alberta-Pacific--to be used for the purpose of developing a Detailed Forest Management Plan, which will "set the direction for activities" in the forest under Alberta Pacific's control. The paper sets out the company's position on the main issues in the forestry debate and requests the public's response to each. The remaining three documents are intended to endorse forestry practices. Alberta Forest Products Association, composed of a group of wood-products companies, has published a two-page, undated broadsheet entitled Clearcutting: Industry Expert Addresses Clear-Cutting Issues written by Wayne Thorp, "assistant general manager Alberta woodlands and lumber operations for Daishowa." Thorp's article deals mainly with Daishowa but, because it is

produced by the industry association, it is clearly meant to reflect what industry considers clearcutting standards. The Alberta Forest Products Association has also produced Reforestation: Planning for our Future Forests and Key Issues Relating to the Alberta Forest Industry (1993).

In the literature of industrial foresters, arguments that favour logging also favour clearcutting. Rational, emotional, and ethical appeals are created to persuade the reader that clearcutting not only does not damage, but actually benefits, the forest; moreover, the foresters suggest that to conserve some areas of the forest from logging can cause over-logging in the surrounding areas. Foresters often construct an analogy between clearcutting and forest fire, intended to convince the audience that clearcutting and fire both create the proper conditions for reforestation, which means that clearcutting can be considered natural. For instance, "Ecosystem Management," an article in the Forestry Discussion Paper, argues that natural fire is meant to compel rejuvenation of forests at regular intervals. The forest has

> been shaped by natural forest fires for thousands of years. Studies of fire history and ecology suggest that the boreal forest had a relatively high fire frequency, with fires recurring every 35-40 years. As a result, natural forests were generally young. . . . [F]ire protection has resulted in a larger proportion of older forests. ("Ecosystem Management")

The author then connects fire and forestry, telling us Alberta-Pacific's proposed method of forest management "would include variation in cutblock size, shape, distribution and retention of natural diversity all within the bounds of natural variation, similar to structural factors

produced by fire." Fire is a natural and essential ingredient in boreal forests; foresters can simulate post-burn conditions simply by the way in which they log. "Harvest Systems," also in the Forestry Discussion Paper, takes a similar view. The article opens with the question: "How should the trees be harvested?," making the Cartesian assumption that they ought to be, that forests represent raw materials available for human use. The author then points out that harvesters should follow nature's lead, varying "the size and shape of cutblocks . . . in order to imitate natural forest fire influences."

Wayne Thorp, author of Clearcutting: Industry Expert Addresses Clear-cutting Issues, forges a similar link between clearcutting and fire. He tells us:

> our forests have been burned at more or less frequent intervals for many thousands of years. . . [W]hat Mother Nature provides us now is not a first growth forest, but rather a sustained yield forest. Most of it has been reforested naturally after having been clear-cut in nature's way by fire.

Fire in nature is quite deliberate and can be easily imitated; for instance, "Mother Nature prevented . . . [the takeover of poplar stands by White Spruce] with the use of fire causing suckering and eliminating the spruce's chances of taking over the site. . . . [H]arvesting accomplishes the same objectives." White spruce stands now in Alberta, Thorp suggests, succeeded aspen, not poplar, thanks to Mother Nature's intervention.

This suggestion that foresters achieve by hand what nature achieves through fire (an area cleared of trees and ready for reforestation) leads the forestry rhetors to commit a number of logical fallacies. The argument

upon which the foresters rely--that clearcutting and fire are equivalent in important ways--can be reconstructed as a logical syllogism. Our syllogism would take this form:

> Fire is Mother Nature's way of reforesting.
> Clearcutting is like fire.
> Therefore, clearcutting is like Mother Nature's way of reforesting.

The minor premise in this syllogism is untrue because it is a faulty analogy. An analogy is "a form of logical inference . . . based on the assumption that if two things are known to be alike in some respects, then they must be alike in other respects" (American Heritage Dictionary). According to Corbett, however, an analogy "at best persuades someone on the grounds of probability. It is the *degree* of probability that will be susceptible to challenge" (Corbett 77). In this case, the challenge comes from the fact that these foresters "overlook pertinent, significant dissimilarities" (Corbett 77) between clearcutting and fire which reduces the degree of probability that the analogy will hold; in fact, these foresters commit the fallacy of the half-truth because they withhold evidence. The evidence they offer to show that clearcutting equals fire is that clearcutting and fire both remove forest canopy, allowing some species of trees to replenish themselves. However, the foresters do not address the fact that fire changes soil chemistry and does away with the need for the intense human and mechanical intervention in reforestation described by foresters, the need, for example, for "crawler tractors . . . [to mix] the moss and soil . . . [to create] a suitable seed bed for germination" (Thorp).

These foresters withhold evidence that would complicate or weaken their attempts to convince the public that clearcutting simulates natural conditions. An unwillingness to compromise one's position is an aspect of deliberative rhetors; but, in this example, such unwillingness results in faulty reasoning.

In trying to support the analogy between clearcutting and fire, some rhetors violate the law of contradiction. Key Issues Relating to the Alberta Forest Industry contains a brief chapter entitled "Why Clearcuts Are Used as a Harvest Method," which asserts that foresters simulate post burn conditions by "opening the site to sunlight" to sufficiently warm cones that only release their seeds at high temperatures. The rhetor's correlation of fire and clearcutting, however, is contradictory. He tells us clearcutting imitates fire conditions, good for aspen, pine, and spruce. However, trees are better harvested than naturally burned: fire conditions are undesirable because fire causes the "loss" of trees, although "the success of" fire suppression programs has kept the loss of forest to less than one per cent per annum. Conversely, fire conditions are desirable: trees protected from fire overload the forest. They must eventually be removed from the forest, if not by fire then by clearcutting: "harvesting and reforestation operations utilize overmature stands that are susceptible to decay, insect and wind damage, and create young, healthy tree stands." The author, then, advocates clearcutting by (1) endorsing nature (fire is good because it regenerates the forest; clearcutting mimics fire), (2) condemning nature (fire is bad and causes the loss of trees; clearcutting

actualizes the commercial value of those trees), and (3) endorsing nature (fire is good; since we have controlled it we now have to clearcut for reforestation to occur).

The same contradictory reasoning appears in Reforestation: Planning for Our Future Forests. On the one hand, fire is a natural step in reforestation, imitated by clearcutting: "the clear cut harvest system . . . emulates forest fires" by making an area "easily accessible for subsequent tasks including site preparation and replanting." On the other hand, fire has no value in the regenerated forest and must be avoided at any cost: "Once the forest has been renewed, it must be protected. Fire, insects and disease are a tree's biggest enemies. Solid forest management protects trees from such threats."

Occasionally, the rhetors rely on diversionary tactics to distract the reader from the issue at hand. Clearcutting and Key Issues employ the "red herring": Wayne Thorp tells us "clear-cutting is still the logging method used in more than 70 per cent of the harvesting carried out in Sweden," and Key Issues states that "clearcutting is an efficient, economical way to harvest that is widely practised in many countries." Saying that foreign foresters clearcut does not constitute evidence to support clearcutting; it merely diverts the reader's attention from the search for proof that clearcutting and fire are similar.

The foresters tend to appeal to reason in their attempts to persuade the reader to their point of view. The sole emotional appeal in the four texts is in the article "Wilderness Areas" in the Alberta-Pacific Forestry

Discussion Paper. The first two paragraphs list various evaluations of the forest: "non-consumptive users such as photographers, trail riders, birders, and backpackers, would like wilderness areas to be unique, scenic parks with developed trails; . . . Consumptive users such as hunters and fishermen view wilderness areas as an area [sic] with limited access and a high potential for a quality hunting or fishing experience." The third paragraph appeals to the emotion of fear:

> It must be recognized that if timber wilderness areas were to be established within the Alberta-Pacific FMA [Forest Management Agreement area, allotted by the provincial government to the company to log and reforest], and if timber harvesting is excluded from these wilderness areas the timber requirements of the mill must still be met. If large areas of the FMA were deleted for wilderness, forest management operations will be more intensive (short rotations, minimum passes, short time period between passes) and concentrated in the remaining portions of the FMA. Intensive forest management will limit the ability to successfully address bio-diversity or implement ecosystem management.

Aristotle defined fear as "a sort of pain or agitation derived from the imagination of a future destructive or painful evil" (Aristotle 139). Fear is caused by things that "seem to have great potentiality for destruction or for causing harms that lead to great pains" (139); fear is increased by the belief that the destruction or pain "cannot be set right by those who have made a mistake and is either wholly irremediable or not in their power" to correct (140). For fear to continue, "there must be some hope of being saved from the cause" (141). Aristotle suggested that an appeal to fear is minacious: it represents "enmity and anger from those

with the power to do something; for it is clear they wish to, and thus they are near doing it" (139).

The appeal to fear in the Forestry Discussion Paper is aimed at the consumptive or non-consumptive visitor to the forest who would like to preserve wilderness for his own benefit or the benefit of others. Such a reader might anticipate pain to himself resulting from the destruction of the forest; the pain might take the form of an affront to the reader's aesthetic sensibilities, regret that his descendants will never enjoy the boreal forest, or sorrow at the loss of biodiversity. His fear will increase if he believes that, once destroyed, a forest ecosystem cannot be redeemed; it will endure most poignantly if he believes that his actions can prevent the destruction.

The menace of an appeal to fear that Aristotle points out is certainly evident in "Wilderness Areas": Alberta-Pacific foresters have not only the power but, clearly, the intention to overuse the rest of their FMA area should they feel they must. However, the gist of the warning against setting aside large areas of the FMA area for wilderness is to give the reader a sense of power over the future of the forest; as long as his demands are small, he will not suffer. Despite the emphatic "it must be recognized," the entire paragraph is, after all, in the subjunctive mood. The reader's actions can still prevent Alberta-Pacific Forest Industries from possibly ruining its FMA area forever.

Abruptly, following this appeal to emotion, the article switches to a question: "Are there any unique or scenic areas within the Alberta-Pacific

FMA that should be considered for designation as a wilderness area?" The author has already given the reader a sense that his actions can prevent the destruction of the boreal forest within the Alberta-Pacific FMA area. This question has a solicitious, soothing tone: it offers the reader a chance to use his power. According to Janis and Feshbach, propaganda researchers, this moderate appeal to emotion is highly effective. Janis and Feshbach subjected three similar groups of people to three films about tooth decay, which ranged from strongly to mildly threatening. They discovered that, "as the amount of fear-arousing material is increased, conformity to recommended actions tends to decrease" (Janis and Feshbach 336). As well, "under conditions where people are exposed to competing communications dealing with the same issues [in this case, those produced by environmentalists] the use of a strong fear appeal is less successful than a minimal appeal in producing stable and persistent attitude changes" (336). Indeed, Aristotle implies that a moderate appeal to fear is highly effective when he suggests that fear is sustained by the possibility of escape from the causes of suffering.

Despite its successful appeal to fear, "Wilderness Areas" is not entirely free of emotional fallacies. It contains an argument *ad populum*, "the tactic of appealing to irrational fears and prejudices in order to prevent audiences from squarely facing the issues" (Corbett 79). The author does not define "large" in the clause "if large areas of the FMA were deleted for wilderness." He does not gauge the point at which wilderness conservation would begin to obstruct mill requirements; he

simply gestures toward the perennial dread of environmentalists everywhere: wilderness areas surrounded by acres of forest region, ruined by "short rotations,. . . [and] minimum passes."

The author has a distinct perspective on the forest. In the phrase "if large areas of the FMA were deleted for wilderness," the words "deleted for wilderness" suggest that the author privileges commercial forest over wild areas. (Environmentalists might prefer to think of wilderness being deleted from the FMA.) The warning that "forest management operations will be more intensive" particularly reveals the author's bias. The purpose of the Forestry Discussion Paper is to "obtain and incorporate meaningful public input into . . . [a] forest management . . . [plan]." Elsewhere in the Forestry Discussion Paper "forest management" is defined as "responsible practices" ("Harvesting on Private Land"), and "managing to sustain sufficient economic, environmental and social values to satisfy society's needs. Values . . . include timber supply, water quality, ecosystems, wildlife habitat, aesthetics, recreational features and lifestyle opportunities" ("Sustainable Forestry"). In "Wilderness Areas," however, "forest management" is transformed into a euphemism for commercial harvesting. The more intensive it becomes, the more destructive it gets. "Intensive forest management" does not scrupulously protect various values, as the term suggests. Rather, it endorses logging, reforestation, and logging again: "short rotations, minimum passes, short time period between passes." And it destroys the forest by limiting the company's "ability to successfully address bio-diversity or implement

ecosystem management." The author of "Wilderness Areas," it seems, implies the threat that interference with company procedures will necessitate a less-than-satisfactory ecosystem management.

Whereas only one text makes an emotional plea, all four industry documents show evidence of ethical appeals. For an ethical appeal to be potent, the discourse must evince the author's sound sense (his grasp of the subject and valid reasoning), his high moral character (evident in his respect for integrity and rejection of unscrupulousness) and his benevolence, visible in his concern for the welfare of the audience; an ethical appeal, however, can be subverted by a blunder in any of these areas. The ethical appeals in Clear-cutting: Industry Expert Addresses Clear-cutting Issues, Alberta-Pacific's Forestry Discussion Paper, Reforestation: Planning for our Future Forests and Key Issues Relating to the Alberta Forest Industry are not weak in themselves, but are offset by weaknesses in rational and emotional appeals.

Wayne Thorp, author of Clearcutting: Industry Expert Addresses Clear-cutting Issues, has an advantage over the authors of the other three texts. He is named an "expert" and, we are told, holds an expert's job: he is assistant general manager of Alberta woodlands and lumber operations, employed by Daishowa Canada Co. Ltd. Moreover, Thorp's discourse demonstrates that he is a man of good sense. He impresses as having a broad grasp of the subject of forestry. He begins by defining clear-cutting ("the removal of all merchantable trees within a patch of specified size within a forested area; the size varies with the species of tree and other

factors"), and offers a number of facts about Daishowa's forestry practices, including the locations and sizes of harvest areas and the types of trees harvested. Thorp also describes the needs of each variety found in Alberta's boreal forests. However, despite evidence of Thorp's grasp of the subject of forestry, the fallacies we have seen in his appeal to reason--his tautological connection between clearcutting and fire and his use of the "red herring" diversionary tactic--diminish his rational rhetoric.

Thorp, though, undertakes to demonstrate his integrity and objectivity. His purpose is "to present the facts . . . [about forest practices] objectively"; and, although his tautology has undermined his effort to appear unbiased, he nonetheless appears to have attained that goal. He tells us that clear-cutting is the method of choice in white spruce stands but, "candidly, the case for clear-cuts is not as definite . . . [for white spruce] as for the other species . . . when it comes to successful reforestation." This statement is suggestive of criticism of the procedures of his employer and himself. It is somewhat unusual, in deliberative discourse, for a rhetor to criticize his own position; Thorp's self-criticism, however, is moderated by his mention that successful reforestation of white spruce after clearcutting simply requires more of the forester's attention to "site preparation, draining and selection of trees."

Thorp's approach evinces a concern for the reader's welfare. He has set out to calm the reader's mind, he tells us, by alleviating "public concerns and conflicting opinions about clear-cutting in Alberta's northern forests." Thorp is also concerned for the welfare of trees.

Foresters, he tells us, have lessons to learn from nature's ways: "forest managers have become increasingly aware that we must strive to understand . . . and to apply" nature's harvesting and reforestation techniques. To achieve this goal, foresters must "treat each species individually, recognizing its special needs." As with the appeal to fear in the Forestry Discussion Paper, this type of appeal is aimed at the environmentalist. Thorp--and, by extrapolation, Daishowa--is concerned for the reader and joins the reader in feeling concern for the earth itself.

The authors of Reforestation, the Forestry Discussion Paper, and Key Issues are not named as experts. Therefore, their discourse alone must convince the reader that they are men, or women, of good sense. Like Thorp, they seem conversant with the subjects of forests and forestry in Alberta. The Forestry Discussion Paper explains that cutblocks in the Alberta-Pacific FMA will range from 3 to 60 hectares, averaging approximately 25 hectares. Adjacent stands will not be harvested . . . until the harvested area is stocked with trees that are at least 3 meters (10 feet) tall" (Harvest Systems). Key Issues tells us that, in Alberta, "each year about 1/80th to 1/120th of the trees can prudently be harvested while ensuring harvesting does not outpace forest growth. . . . Based on a 100-year average rotation period, the AAC is about one per cent of the timber volume suitable for logging" (6). Reforestation explains that "fifty-three per cent of Alberta is covered by forests, or about 350,000 sq. km.," of which half is commercially viable. Despite their knowledge of forestry, however, these authors' appeals to personal good character have been undermined

by the flawed rational appeals--and, in the case of the Forestry Discussion Paper, the flawed emotional plea--that we have seen.

Like Thorp, the authors of Key Issues and the Forestry Discussion Paper demonstrate their moral character and good will by expressing concern for the welfare of the audience and the forests. Key Issues opens with the words: "Albertans are keenly interested in knowing more about forest industry operations, and rightly so." It is time to take responsibility for our forests: "although our population keeps growing, our land base does not. The increasing demands humans place on the earth make land management essential," not only for us but for "future generations." Consequently, industry consults with the public to develop sound forest-management techniques.

The Forestry Discussion Paper aims to show that Alberta-Pacific is benevolent. The company promises to be guided by public opinion in the operation of its Forest Management Plan, so as to protect both the ecosystem and the social values the forest represents. The leading article, "Your participation is needed," an article entitled "Public involvement," and the Response Sheet on the back page create the impression of a forestry company eager to be encouraged and influenced by the general public in responsible forest management practices:

> The purpose of this discussion paper is to encourage people to provide their ideas in the early stages of plan development. . . . All input will be available to the Forest Management Task Force for consideration in development of the Detailed Forest Management Plan. The . . . Task Force is made up of representatives from environmental groups, user groups, . . . native organizations, government, and the company. ("Your

Participation is Needed")

Activists criticize what they consider the forest industry's expedient use of the rhetoric of good will. Lorraine Johnson says in "Promising the Moon":

> It's hard to imagine a more effective strategy to disarm opposition from environmentalists and the public at large: replace the old denial response with an enthusiastic embrace of the mood of concern. . . . In this transparent use of public anxiety for private gain, the most successful technique is to shift away from reacting defensively to environmentalists' challenges . . . [and] towards taking control of the issues and information by assuming a public service attitude.

Despite the attitude of moral responsibility and good will foresters display toward the public and the forests, they ultimately fall short of a convincing "embrace of the mood of concern." Their "technique," in fact, does not succeed. For instance, the Forestry Discussion Paper's solicitude is undermined by the appeal to fear that appears in the "Wilderness Areas" article. Furthermore, the foresters tend to take a utilitarian approach to forests. The Forestry Discussion Paper moderates the reader's expectation of the influence his opinion will have on Alberta-Pacific by indicating the competition of economic pressures and environmentalism in such phrases as "the application of ecosystem management principles may be limited by biological, social and economic considerations" ("Ecosystem Management") and "the trade-offs between economic, environmental and social values. . . [are] subjective and . . . based on value judgments. . . . Alberta-Pacific would like to hear your ideas on how the forest should be managed to maintain economic, environmental and

social values" ("Sustainable Forestry"). Wayne Thorp in Clear-Cutting points out that "virtually everyone agrees that some old growth should be preserved. The question of how much and where are a matter of debate and hinge on political and economic considerations that go beyond the issue of diversity." Key Issues notes that the wood products industry is in "consultation with the public and representatives of special interest groups" in determining the best use of the forest. But the forest companies' stated concern for public opinion is not sufficient evidence that they are truly well-intentioned toward people or environment. Public consultation and consensus do not necessarily lead to conservationism: the loudest responses to a poll could as easily be pro-logging as conservationist, depending on the personal interests of the population polled. And "the trade-offs between economic, environmental and social values" ("Sustainable Forestry") may not be good for the forest or, ultimately, for people.

Intriguingly, the opening statement of Key Issues mitigates the industry's concern for the public and the environment. The author reminds us that "we all use products derived from our forests--most of us live in homes built and furnished with wood products; we read newspapers, books and magazines; and we use many other forest products every day. Forests and forest products play important parts in our lives." This is a double-edged piece of prose. It implicates the reader in the destruction of forests; he would be a hypocrite to oppose forestry, and thus he must entertain the declarations of responsible forest management

presented in the rest of the pamphlet, despite any suspicions he might have about it.

An analysis of testimony further draws into question the impression of the foresters as a group anxious for the public and forests. There is evidence of conflicting testimony among the foresters. Key Issues, the text that speaks for industry as a whole, tells us that "aspen and pine were naturally designed to grow in...open areas, and spruce trees also need the warmth and sunlight of open areas to regenerate." The Daishowa and Alberta-Pacific foresters, however, take a different view. In Clear-cutting, Wayne Thorp points out that "White Spruce management . . . employs the patch clear-cut method (mainly because it is the most efficient way to harvest) but, candidly, the case for clear-cuts is not as definite as for . . . other species . . . when it comes to successful reforestation." The Forestry Discussion Paper agrees: spruce requires shade and cannot compete with other vegetation that grows in open areas.

Faced with conflicting testimony, the critic might ask if an expert might be biased, if there is any inconsistency or illogic in the expression of one or the other expert's opinion, or if the assumptions behind the opinions demonstrate that the experts are approaching the same matter from different angles. In this case all three opinions are logically expressed and appear to be answering the simple question that asks whether spruce regenerates in clearcut areas. The critic might then ask if one expert's facts are more current. Although Thorp's article is undated, both the Forestry Discussion Paper and Key Issues date from 1993. Unless the other two

authors' information is somehow more current than that in Key Issues, it seems possible that the author of Key Issues is biased: he is more interested in convincing the public that clearcutting is best for all types of trees and less concerned with presenting a balanced account of the practice.

In summary: in their attempts to persuade the reader that clearcut logging is environmentally sound, each rhetor draws a parallel between the effects of clearcutting and the effects of fire. The argument that clearcutting and fire are similar takes the form of a rational appeal, which can be reconstructed in the form of a syllogism. Unfortunately, the appeal is flawed. The syllogism is based on a minor premise that is a faulty analogy. The analogy between clearcutting and fire does not hold because the rhetors, in pointing to similarities between the two, overlook important dissimilarities that raise questions as to the environmental consequences of clearcutting. In creating the analogy, the foresters withhold evidence, engage in circular reasoning and violate the law of contradiction. Moreover, Clearcutting: Industry Expert Addresses Clear-Cutting Issues and Key Issues Relating to the Alberta Forest Industry employ the "red herring" diversionary tactic: instead of presenting sound proof in favour of clearcutting, they suggest that clearcutting is right and good since most foresters do it. The sole emotional appeal in the four texts--the appeal to fear in the Forestry Discussion Paper--is flawed by the diversionary tactic of the argument *ad populum*. Although the rhetors all appear quite conversant with their subjects, their ethical appeals are undercut by the failure of their rational and emotional appeals, and by the

semantic clues that suggest that the industrial foresters are less benevolent than they appear at first glance. According to the criteria of the three appeals, then, Clearcutting: Industry Expert Addresses Clear-Cutting Issues, Key Issues Relating to the Alberta Forest, Industry Reforestation: Planning for our Future Forests and the Forestry Discussion Paper fail to persuade the reader that the rhetor is dependable.

Chapter Four:

The Rhetoric of Government Brochures

The Alberta government supports the forestry policies of both the federal government and the wood-products industry. The provincial and federal governments have formed the Canada-Alberta Partnership in Forestry, and the Forest Service branch of Alberta Fish and Wildlife joins wood-products companies in the Alberta Forestry Association. But, despite clear sympathy with business interests, governments must work--or appear to work--for the best interests of all constituents. Governmental rhetoric, both federal and provincial, must aim to please industrial forester and environmentalist alike. Therefore, government brochures, like those of industry, point to a plurality of social values which forests must sustain:

> Our forests are an important renewable resource. They provide us not only with material goods, but also solitude, tranquility and serenity. They are a home for wildlife, and continue to be visited and enjoyed by many Albertans each year. The forests are also the workplace for one of our most important industries--forestry. This industry ranks among the three most important in Alberta in terms of value of exports, total salaries earned and gross provincial revenues. Throughout Alberta's history, the forests have provided fuel, shelter and other resources from which we derive the essentials for maintaining a high standard of living. Because of this, it has been recognized that there is a need to provide for all forest uses, not just timber development. (Timber Harvesting)

These values--materialism versus spiritualism--are variously

invoked in government pamphlets, depending on whether the rhetor hopes to encourage or discourage logging. The governments produce two brochures aimed at the private landower: Woodlot Management, which endorses logging for profit, and Logging Private Land in Alberta, which criticizes clearcut logging by private landowners. Pamphlets aimed at the general public, however, unreservedly support the harvest practices of modern foresters.

Alberta Forestry, Lands and Wildlife distributes two short pamphlets printed by Forestry Canada. The first, Canadian Perspective on Clearcutting, endorses both clearcutting and "research and development . . . to help reduce any negative impact associated with clearcutting." The second, Canadian Perspective on Old-Growth Forests, supports clearcutting in old-growth forests, defining the "main issue in the old-growth debate . . . [as] deciding what portion of forests should be left untouched . . . and what portion should be available for other uses, including commercial harvesting."

The provincial government has published three pamphlets pertinent to forestry in Alberta, all of which endorse forestry practices. A Growing Opportunity: Alberta's Forest Resources is a glossy, twenty-eight page survey of forestry in Alberta. The booklet compiles and expands information found in shorter brochures. Reforestation in Alberta, printed in January 1993, discusses harvesting and replanting on public lands. Genetics and Tree Improvement: Better Forests for the Future outlines the way in which researchers are improving trees and reforestation to

keep up with the growing world demand for wood.

This group of pamphlets and booklets describes clearcutting differently from the documents produced by industrial foresters. The foresters identified clearcutting with the removal of all "commercially-usable trees in a specified area" (Key Issues). Canadian Perspective on Clearcutting, by contrast, defines clearcutting as "the practice of removing all the trees from a given area at once" (emphasis mine). The provincial government agrees with the federal definition. Its pamphlet A Growing Opportunity: Alberta's Forest Resources characterizes clearcutting as the removal of all the trees from an area by repudiating such selectivity in logging: "early loggers cut only the best trees and left the rest. This wasteful practice created an environmental problem as the debris and wind-toppled trees attracted insects and disease" (14).

Despite their disagreement with industry about the definition of clearcutting, government authors--both federal and provincial--join company foresters in a defence of their practice. Both governments attempt to persuade the reader to the government's point of view by constructing the same analogy between fire and clearcutting as the foresters did, and by presenting emotional pleas. Ultimately, these rational and emotional pleas influence the appeal of the rhetor's character.

The federal government tells us clearcutting

> mimics the natural mechanisms of forest renewal such as wildfire, particularly in the boreal forest . . . [because, like burned areas] clearcut areas are also suitable for natural regeneration by seeds from surrounding forests, particularly for species such as Douglas-fir, Lodgepole Pine and aspen that need full sunlight. (Canadian Perspective

on Clearcutting)

This analogy between clearcutting and fire, just as when it is used by the industrial foresters, is flawed: it is not sufficiently supported simply by the fact that clearcut harvesting and fire might both remove trees from an area. The rhetors overlook "pertinent, significant dissimilarities" (Corbett 77) between the two events, which reduces the probability that the analogy will hold: for instance, the authors do not mention, for instance, that clearcutting does not alter soil chemistry in ways essential to reforestation, and that logging equipment often compacts the soil, increasing erosion and decreasing the rate of regrowth.

Comparing harvesting and fire causes rhetors to violate the law of contradiction--a law of logic "based on the principle that a thing cannot at the same time be and not be" (Corbett 49)--and leads them to present partial-truths. The federal government, like industry, argues both for and against fire in its effort to endorse clearcutting. Canadian Perspective on Clearcutting justifies clearcutting because it "mimics the natural mechanisms of forest renewal such as wildfire, particularly in the boreal forest." Fire, then, is implicitly good. But, on the other hand, fire--along with the other "natural mechanisms of forest renewal"--is explicitly bad. Therefore, clearcutting must redeem what nature would waste and destroy: "The largest clearcuts are often carried out as a sanitary measure to salvage forests that have been damaged by insects, disease, fire or wind. And, in some cases, clearcuts are used to arrest the outbreak of forest fires." The laws of logic can be applied to this argument because its parts are

presented as separate propositions, not linked in a description of the relative benefits and detriments of burned forest. According to the law of contradiction, only one proposition can be true: fire either benefits or harms the forest. It cannot do both, as this author seems to suggest.

It can be established that both clearcutting and certain types of fire remove trees from an area. But, because the author does not take everything into account, "the total picture is distorted" (Corbett 72). The same "pertinent, significant dissimilarities" (77) which undercut the analogy between fire and harvesting also create a half-truth. The author does not tell us that fire might create conditions for life that logging cannot. He also glosses over the fact that, since fire is one of the "natural mechanisms of forest renewal," burned areas might be left alone to regenerate themselves naturally; they need not necessarily be "salvaged" by human intervention.

Canadian Perspective on Clearcutting contains two "red herrings." It opens with the statement: "Properly practiced clearcutting is an appropriate method of harvesting and regenerating forests, recognized by professional foresters from around the world." Later we are told clearcut logging is "a simple and economically sound method suited to highly productive mechanized operations." The first statement does not constitute evidence to support clearcutting; it simply tells us to put our faith in foresters. The second clause would have us accept clearcutting only because it is economical and convenient for the forest industry. Both statements divert the reader's attention from the proof that clearcutting

"does not impair the capacity of a site to support new forest stands," or that clearcutting "mimics the natural mechanisms of forest renewal such as wildfire, particularly in the boreal forest."

The second federal pamphlet, Canadian Perspective on Old-Growth Forests, does not construct the clearcut-fire analogy, but it does make a fallacious rational plea--in the form of a "red herring"--in favour of the forest industry. In a discussion about how much forest should be preserved, ending with a pledge to conserve twelve per cent of Canada's landmass, we are told:

> Canada's forests are massive--they are three times the size of European forests. . . . Furthermore, half of Canada's forested land does not produce a commercial timber crop. These areas provide wildlife habitat and other non-timber values that should never be touched by harvesting. In fact, only one-quarter of Canada's forest land is estimated to be commercially viable.

These statements deflect attention from the real issue, which is the preservation of forest area deemed to contain old growth. We are expected to feel quite safe from deforestation because our forests are three times larger than Europe's. We are not told whether European forests are small because they have been decimated, or whether the author means that we ought to feel concerned only when our forests have become as small as Europe's; in fact, it seems that the size of Europe's forests ought not to enter into a discussion of conservation in Canada, unless, perhaps, as an example of what we should avoid. We are also offered the information that foresters have no commercial interest in half our forests and a serious

interest in only one-quarter. Rather than promise a program of conservation, this statement merely suggests that preservation will occur naturally as a result of market forces, overlooking the fact that the wood-products market eagerly searches for uses for all types of trees. It has recently found a use for "hardwood aspen and poplar timber" (Genetics and Tree Improvement), and the commercial value of various forests may someday change again to include even more trees now considered economically useless.

The federal line of reasoning that links clearcutting and fire is echoed, slightly altered, in the brochures printed by the provincial government. A Growing Opportunity: Alberta's Forest Resources deals with the effects of clearcutting and fire on wildlife habitat, not reforestation. In a quasi-Hegelian fashion, the author argues that nature both can and cannot care for itself, and that foresters must step in and save the day when nature fails. On the one hand, the forest demonstrates that nature can care for itself: it provides "a home for animals, . . . and a major factor in watershed management and erosion control" (9). On the other hand, nature cannot care for itself and requires human intervention to properly fulfill its potential: "without a management and harvesting program, forests can become dense and unsuitable for people and wildlife or, worse, a potential fire hazard" (16). Fire does not alleviate denseness and improve wildlife habitat; instead, like the thickening forest, fire represents nature out of control. On yet another hand, we are told that fire is a necessary part of nature caring for itself. It clears dense forest and

improves wildlife habitat. Modern fire suppression has defeated this process, so foresters must imitate the clearing effect of natural fire by clearcutting: "timber harvesting can be an effective replacement for the wildfires which, in the past, cleared large areas for grazing land and open wildlife habitat" (16); it "improves habitat for certain species of animals, such as deer and elk" (16); "during periods of low fire hazard . . . clearing timber through either harvesting or controlled burning has created new range for big game animals" (9).

In sum, the argument follows this path: the forest is good because it provides wildlife habitat. Fire is bad because it threatens the habitat of forest animals. The forest is undesirable when it thickens, choking out animal habitat and creating a fire hazard. But fire is desirable because it removes forest and the habitat of smaller forest animals (now undesirable) and creates open habitat for large range animals. Thus, clearcutting is a necessary and effective replacement for fire.

One source of confusion in this argument is the mention of two types of habitat: forest and range. First the author notes that forest is desirable for the protective habitat it provides, but ultimately he privileges the open habitat of range animals over that of smaller forest wildlife. This argument violates the law of contradiction: the forest is desirable both for existing--for protecting forest animals--and for not existing, for being cleared to create habitat for range animals. Fire is undesirable because it clears forest, reducing the habitat of forest animals, and, simultaneously, fire is desirable because it clears forest, reducing forest habitat and

increasing range.

This analogy between clearcutting and fire in A Growing Opportunity will hold if clearcut and burned areas both provide sources of food for range animals. The author constructs another analogy, though, that is not as successful as the clearcut-fire equation. He compares forest fire, aboriginal fire practices, and modern controlled burning:

> Unchecked forest fires ignited by lightning used to be part of a natural cycle that opened up areas for large game animals. Today, trained firefighters quickly control . . . these wildfires. In the past, Alberta's natives used limited burns during wet spring conditions to maintain good populations of the wildlife they depended on for food. . . . In today's forest, Buck for Wildlife has been active in financing prescribed burns for the same reasons, during periods of low fire hazard. . . . Clearing timber through either harvesting or controlled burning has created new range for big game animals. (9)

There are two flaws in this analogy. The first lies in the connection of natural and manmade fire. The author seems to ascribe to random, lightning-induced fire a deliberate purpose to benefit range animals, by saying, "Unchecked forest fires ignited by lightning used to be part of a natural cycle that opened up areas for large game animals." The second flaw lies in the connection between nature, natives, and Buck for Wildlife. The author tells us: "In today's forest, Buck for Wildlife has been active in financing prescribed burns for the same reasons." These "reasons" would thus be (1) maintenance of a "natural cycle" to open range "for large game animals," and (2) to provide a necessary source of food, possibly for natives. The degree of probability in the connection between natural fire, native burns, and modern controlled burning is subject to challenge.

Indeed, the author seems to be presenting a half-truth. Modern prescribed burning and clearcutting have little to do with natural cycles or tribal food supplies. Modern landclearing is intended to increase range for game animals, but not for the "same reasons" as natural and aboriginal landclearing. Rather, it is meant to increase game for sport hunting.

The author's intention to benefit sport hunting is not enunciated but must be constructed from implications in the text. The author refers to "big game animals," not "range animals," which implies that he considers them a part of hunting. Few people rely on trophy animals for food, as the natives did; modern hunting is, mainly, a leisure-time activity. Moreover, Buck for Wildlife is a program that "uses levies attached to the sale of hunting and fishing licenses, as well as private donations, to improve wildlife and fish habitat throughout Alberta" (9). The improvements are primarily intended to preserve fish and game for sportsmen. It might be surmised that Buck for Wildlife increases rangeland in the interests of sportsmen, not to maintain a natural cycle or food source.

The provincial government does not completely avoid the faulty analogy that tells us clearcutting and fire both create the conditions necessary for the rejuvenation of forests: Reforestation in Alberta defines reforestation as "the growth of new forests on areas where trees have been removed by harvesting or burned over by forest fires" (Reforestation in Alberta), and the rhetor equates manual and natural reforestation.

Besides condoning clearcutting, the provincial government

endorses the production of trees and forests with special qualities. The government has published a brochure, Genetics and Tree Improvement: Better Forests for the Future, which discusses genetic research in Alberta's forests. In an effort to persuade the reader that genetic research is good, the pamphlet draws a faulty analogy between grain and wood:

> Genetic development of marquis wheat made possible the agricultural settlement of the Canadian prairies and the feeding of millions. . . . Just as the science of genetics has made a valuable contribution to attaining an abundant food supply, so the science of genetics will be one of the keys to an abundant supply of superior logs for the forest products industry in Alberta and in the rest of Canada for generations to come.

The development of a reliable food supply can be considered both essential and noble; its lofty nature is suggested by "the feeding of millions," vaguely reminiscent of the feeding of the multitude in the Gospel of Matthew. The development of "an abundant supply of superior logs for the forest products industry" might be considered essential and noble were it to be linked with a basic need such as housing. The author of this piece, however, does not show that logs will benefit the greater citizenry. He simply says the "abundant supply" is "for" the wood products industry. Consequently, the paragraph seems to suggest that superior logs will improve life for the few who would log, not for many who must have shelter.

Government rhetors not only construct analogies to persuade the reader to their point of view, but also appeal to the characters of the rhetors and the wood-products industry itself. The author of Genetics and

Tree Improvement: Better Forests for the Future hopes to convince the reader that he and the forest products industry for whom he speaks are both concerned for the welfare of the forest and citizen. Genetic experimentation on Alberta's trees is meant to benefit the public: it is "a true investment in the well-being of future Albertans and Canadians." But this author's discourse contains a number of inaccuracies. He has drawn a faulty analogy between wheat and wood. Furthermore, he errs slightly in the details of a "history of genetics." His history deals only with Gregor Mendel, the original geneticist:

> Genetics is the scientific study of heredity. It began with the Austrian monk Gregor Mendel in 1866. He proved that hereditary factors are passed on from one generation to the next, both in plants and animals. Mendel also demonstrated that an inherited characteristic is determined by units called genes. These genes are transmitted by each parent.

It is true that Mendel realized that physical characteristics were inherited, and he termed the causes of inherited characteristics "factors." But Mendel did not coin the term "gene": the "concept of the gene (but not the word) was first proposed in 1865 by Gregor Mendel" (not 1866, as the government rhetor suggests) (Suzuki et al. 17). Furthermore, Mendel worked on plants, not animals (although his research was later applied to animals): he "studied the garden pea" (17) because it is easy to cross-pollinate, it is "cheap and easy to obtain, . . . [has] a relatively short generation time, and . . . [produces] many offspring" (17).

This rhetor seems to use less carefully than he could the terms "factor" and "gene." As well, he does not seem to view the matter at hand

"in the proper perspective" (Corbett 81). Throughout the pamphlet he is eager to convince the reader that intensive commerical logging and genetically-improved forests are excellent ideas with no deleterious consequences. He hopes genetic research on trees will help "to maintain wood's vital role in modern life" at a time when many observers are calling for research into alternatives to wood, especially new wood, in order to reduce the rate of logging in the world's forests. The author also tells us that foresters search for rare, superior trees for breeding to

> develop trees whose branches will be thin and grow from the trunk at a 90 degree angle. Old branches will die off regularly. . . . The wood will have higher density and strength. Cone crops will be plentiful and the trees will mature in 50 to 60 years compared to the 80 to 120 years they require now. Many of these trees will be grown in forests where intensive management techniques will be applied such as spacing, tending, fertilizing, etc.

Genetic improvement is intended to "enable foresters of the future to leave behind the precarious existence of the gatherer for the more predictable existence of the planter," and the planter is investigating the possibility of growing "such exotic trees as Siberian larch, Scotch pine and Ponderosa pine" (8). The author, however, does not address issues that might mitigate the reader's excitement over genetically-improved forests. The genetically-altered trees, with their changed morphology and rapid maturation, might eventually become more susceptible to disease or decay than their predecessors, or they might cause a radical alteration of habitat. Some subspecies of the boreal forests require a century to mature; for instance, environmentalists point to a lichen that composes part of the

diet of the woodland caribou and has a hundred-year life cycle. That lichen might not be able to develop, grow, and mature in half the regular time. The complexion of the boreal forest will be drastically altered if native trees were to be replaced by exotic species, if "intensive management techniques" were applied and if foresters became planters, not gatherers. Forest Management Agreement areas will be transformed into tree farms, not replenished forests. Apparently, such a transformation is already occurring: "Today, coniferous reforestation is completed almost exclusively with lodgepole pine or white spruce seedlings. Recent experimentation with alternate species may lead to a wider variety of trees in commercial forests."

In A Growing Opportunity: Alberta's forest resources and the Canadian Perspective pamphlets, the potency of ethical appeals, based mainly on the author's concern for the welfare of the audience, is reduced by logical fallacies. A Growing Opportunity aims to convince the reader that the Alberta government has carefully researched and implemented a method of forest management, which it oversees scrupulously for the benefit of forest and public: "Periodic independent studies of the forest industry in Alberta have been essential to the development of management programs and legislation" (17); "Forest landscape management guidelines ensure that cutovers are designed to follow the natural slopes and simulate natural forest openings, making them more visually pleasing and beneficial for wildlife" (16). And yet it has been shown that the author is illogical in correlating fire and clearcutting, and

shows a bias toward commercial interests in equating natural and manmade burning. In Canadian Perspective on Clearcutting, the government's benevolent pledge to "modify and improve clearcutting practices" is counterbalanced by its defence of clearcutting as similar to "the natural mechanisms of forest renewal such as wildfire." Likewise, Canadian Perspective on Old-Growth Forests tells us "Canada's goal is to set aside 12 per cent of the country's landmass in the spirit of the recommendations made by the 1987 report of the UN Brundtland Commission"; but the author has already lost the reader's trust by attempting to deflect attention away from the issue of conservation, and twelve per cent suddenly seems quite small.

The government, like industry, relies on rational and ethical pleas, rarely appealing to the reader's emotions. Canadian Perspective on Old-Growth Forests is an exception: it appeals to the emotions of envy and emulation. The rhetor offers three possible opinions about the meaning of forests, clearly privileging the last:

> To some people, old growth means a renewable source of high-calibre timber to be harvested before it falls prey to insects, fire and disease, or rots on the forest floor. Another viewpoint is that old growth refers to a forest ecosystem that includes large trees and a diversity of animal and plant life that should be protected from human intervention. A third viewpoint, shared by many Canadians, encourages a practical approach to land use, including conservation and multiple use of the forest, while increasing public participation.

The salient words in this paragraph are these: "A third viewpoint, shared by many Canadians." This viewpoint is, in fact, the opinion of the federal

government: at the end of the pamphlet we are told "Canada seeks a sustainable balance between all valid ecological and commercial interests by encouraging sound forest ecosystem management." The author hopes to persuade the reader toward a particular opinion by exciting the emotions of envy and emulation, states of mind "that may result from a sense of rivalry with those a person regards as in some sense an equal" (Aristotle 161). The rationale behind this appeal might be based on the belief that each Canadian is likely to consider himself equal to all other Canadians and thus feel "a certain kind of distress at apparent success on the part of one's peers in attaining" (159) an advantage and desire to attain the same advantage for oneself. In this case, the advantage is the approval of the government and the awareness that one stands in agreement with a large number of reasonable people, those who encourage "a practical approach to land use." This emotional appeal is not marred by fallacies; nonetheless, we have already seen that the rhetor's ethical appeal has been damaged by flawed reasoning.

The government authors argue in favour of forest management, trying to convince the general reader interested in the welfare of public lands that the government oversees the forest industry and protects public interests. Government writers, however, employ a different strategy for a different audience: the owner of private land who might consider logging his timber to sell to forestry companies. The wood-products industry frequently solicits wood from farmers; apparently, "the forest industry's growing interest in purchasing timber from private lands has prompted

many landowners to consider harvesting trees on their farms" (Logging Private Land in Alberta). The Forestry Discussion Paper notes that Alberta-Pacific has been "criticized for harvesting wood on private lands" ("Harvesting on Private Land"). No doubt other companies have met with similar criticism, which reflects poorly upon the wood-products industry and, ultimately, the government that supports it. On the one hand, then, the public must be convinced to support forestry practices; on the other hand, the landowner must be persuaded that trees are good for more than quick profit.

Two brochures concern the private logger: Woodlot Management, dating from December 1993, which encourages the landowner to log and replant his forested land in imitation of the forestry industry, and Logging Private Land in Alberta, which attempts to dissuade the landowner from one-time logging and, in fact, to value trees for more than simple profit. Both brochures carry the symbol of the "Canada-Alberta Environmentally Sustainable Agriculture Agreement."

Through appeals to reason and emotion, the governments encourage the landowner toward an imitation of forest practices. Woodlot Management offers up a faulty analogy between nature and gardening. The rhetor points out: "If you don't manage your woodlot, nature will manage it for you as she manages an untended garden." This statement suggests that nature is detrimental to the forest because it has the same effect on forest as on abandoned gardens, and creates an unsightly, unusable mess. However, since gardens require the removal of natural

growth in the first place, and a struggle to keep it out, they generally revert to natural succession when abandoned, perhaps even ending up as forests. It seems that nature manages an untended garden very well.

The pamphlet's appeal to emotion is more effective than its appeal to reason. The author appeals to the emotion of fear. To reiterate: fear is a

> pain or agitation derived from the imagination of a future destructive or painful evil. . . . Such things are . . . causes of fear as seem to have great potentiality for causing . . . great pains. (Aristotle 141)

In this case, however, the entire plea takes the form of an argument *ad populum*. The author appeals not only to the fear of pain from which the reader can save himself, but to the woodlot owner's irrational fears and prejudices, which might obstruct his view of the issues. The rhetor tells the reader:

> You may be content with the beauty and shelter of an aspen forest that surrounds your farmstead, but, if that forest is overmature, drought combined with defoliation from forest tent caterpillars could destroy it. It could take many years before a new forest provides the benefits you have now.

Allowing a forest to mature, or allowing it to grow without interference, might cause the area to depreciate in both aesthetic and economic value: "Unmanaged forest land may be overgrown with poor quality trees [sic]; it may be overstocked so that trees grow very slowly, or understocked so that brush occupies much of the growing space." A critic might ask if a combination of drought and caterpillar infestation targets only

"overmature" forest, or it if might kill a young forest as well; he might question the author's insistence that the only worthy forests are those created in man's image, perfectly balanced between brush and trees for optimum timber growth so as to "increase the value of the land and . . . [perhaps] provide an opportunity for economic benefits."

Although this is largely an argument *ad populum*, it eventually settles into a regular appeal to fear. For fear to continue, there must be some hope of "being saved from the cause of agony. . . . Fear makes people inclined to deliberation, while no one deliberates about hopeless things" (Aristotle 141). The rhetor's image of desolation has little to do with the issue of forest management but much to do with the author's purpose: to encourage the reader to harvest timber. The author, therefore, offers the reader the hope of "being saved from the cause of agony": he lists the telephone numbers of two foresters who will help the reader manage his timber.

The second pamphlet, Logging Private Land in Alberta, founds its rational appeal on inductive reasoning. Induction "leaps from known, observed facts, over an area of unknown, unobserved instances, to a generalization" (Corbett 68). In this case, the rhetor knows what benefits treecover can offer; he does not know how each landowner might benefit from his own trees, but draws a generalization nonetheless. In general, treecover causes

> reduction of wind velocity, resulting in reduced wind damage to crops, reduced soil moisture loss and reduced wind erosion; maintenance of the regional groundwater balance by trapping snow; watershed protection by reducing water erosion; shade,

> shelter and food for livestock; wildlife habitat . . . ; wood products; oxygen cycling by taking in carbon dioxide (a greenhouse gas) and releasing oxygen; part of a varied and attractive landscape.

Except for the inclusion of "wood products," which require the removal of trees, these are all good reasons to retain the treecover on private land.

This rational appeal is followed by an appeal to fear, in the section entitled "Potential impacts of logging." Uninhibited logging might cause the landowner to suffer emotionally--the "aesthetic appeal" of his property will diminish--and financially: "although timber harvesting can provide much-needed cash in the short term, it can also have many negative effects," some of which are addressed by law. Landowners are liable for any increase in erosion or fire hazard or damage done to water or fish habitat. The landowner, however, is given three alternatives to consider, clearly ranked from best to worst: (1) woodlot management, which "allows landowners to reap economic benefits from woodlots without eliminating their environmental and agricultural benefits"; (2) the development of agricultural land, which might not suit the land or provide profits; and (3) "timber liquidation," after which "all the benefits provided by trees will be lost" and monetary costs will ensue. The land will lie idle while still accruing taxes and the costs of erosion and fire, and diminishing in value both financial and aesthetic:

> Finally, consider the effect of treed areas on your quality of life. Landowners in forested areas sometimes clear their land thinking that there will always be trees on the adjacent property. But this can lead to a landscape barren of trees. And when all the bush is gone, the whole community loses, and the first one who cleared the trees contributed as much to the loss as the last one.

This appeal to fear, tinted with a Romantic-Iamblichan hue, is clearly intended to encourage the reader to deliberate upon his course of action, and the treatment of the three options is meant to manipulate him toward woodlot management and away from clearcutting.

For the most part, in this group of pamphlets and booklets, rhetors fail to attempt to persuade the reader to the government's point of view. Canadian Perspective on Clearcutting draws the same fallacious parallel as industry between clearcutting and fire. The argument that both events result in similar reforestation violates the law of contradiction and produces a half-truth. The author of Canadian Perspective on Old-Growth Forests founds his argument on a "red herring." Consequently, although his plea to the emotions of envy and emulation is successful, his ethical appeal is diminished.

The provincial government's pamphlet Reforestation in Alberta, like the documents produced by the federal government and the forest industry, also makes the fallacious connection between clearcutting, fire and reforestation. A Growing Opportunity: Alberta's Forest Resources alters the clearcutting-fire analogy: the author posits, quite rightly, that both events result in increased rangeland. Nonetheless, his treatment of forest and forest fire violates the law of contradiction. Moreover, he draws a flawed analogy between natural fire and aboriginal and modern burning in order to support an argument in favour of sport hunters. Genetics and Tree Improvement: Better Forests for the Future creates another faulty

analogy, this time between wheat and wood.

Woodlot Management, jointly produced by the provincial and federal governments, is blemished by a faulty analogy between nature and gardening, and by an argument *ad populum*. It fails to convince the reader of the writer's good character. The second pamphlet produced by the federal and provincial governments under the Canada-Alberta Environmentally Sustainable Agriculture Agreement, Logging Private Land in Alberta, is different from Woodlot Management. Its rational and emotional arguments are not flawed, so it has quite a persuasive appeal. It gives the impression that both governments do care about the forests, despite their deceptive method of argumentation elsewhere. The governments seem to believe in the power of industrial forestry to sustain the forest, but have little faith that the private logger will implement the proper practices in his own backyard.

Chapter Five:

The Rhetoric of Activism

In Alberta, the environmental groups the Alberta Wilderness Association (AWA) and the Western Canada Wilderness Committee (WCWC) publish a number of news-sheets concerning the condition of the forests and other wild spaces. Articles in these news-sheets often engage in a dialectic with the wood-products industry and the provincial and federal governments; they are best read in conjunction with the literature of industrial and governmental foresters. Environmentalists, such as Azim Mallik, criticize the clearcutting-fire connection to which foresters appeal as a support for harvesting techniques. An Assistant Professor of Plant Ecology at Lakehead University in Thunder Bay, Ontario, Mallik published "The Role of Fire in the Boreal Forest" in a WCWC tabloid entitled Boreal Bio-Facts. He crafts a rational appeal and ethical appeal in support of fire control, as opposed to fire suppression. By contrast, Oliver Kellhammer criticizes the practice of forestry itself. He scrutinizes the motives of industry and government in an argument unfortunately marked by rational and emotional fallacies that undermine any attempt at an ethical plea. Two AWA articles by environmentalist Kevin Van Tighem take a different approach. Rather than criticize the foresters' language, ideas, and practices, Van Tighem advocates an ethic of conservationism and stewardship. He relies mainly on ethical and emotional pleas, appealing to the intellectual history upon which the

debate about Alberta's forests is, in part, founded.

Azim Mallik undertakes to disprove the claims for logging made by government and industry. In particular, he argues that clearcutting does not reproduce post-burn conditions. In fact, his article "The Role of Fire in the Boreal Forest" is an unusually successful persuasive attempt in the clearcut-fire debate; Mallik's rational appeal is much less flawed than those of industrial and governmental authors and, as a result, Mallik's ethical appeal is fairly strong.

Mallik creates an inductive argument against both clearcutting and fire suppression, based on examples of changes in fire-dependent vegetation in areas that have been either clearcut or protected from fire. His examples come from the United States and Eastern Canada but apply to the boreal forest in general. Mallik tells us that the fire-suppression programs of industrial forestry will change irremediably the face of the forest:

> The regeneration of fire adapted conifers such as black spruce, jack pine, etc., depends on recurrent fire in the ecosystem. Change in forest composition with the extinction of certain fire adapted species was recorded in several large U.S. national parks where fire was completely removed for the last 60-70 years. . . . [Normally, pre-fire vegetation will recur as long as the fire is not exceptionally severe.] In the boreal forest of Alaska, black spruce stands usually revert back to black spruce following fire. . . . Studies in northwestern Ontario indicate that following moderate fire the burned stands regenerate to the pre-fire dominant vegetation.

Mallik's inductive argument is not obviously flawed. Unfortunately, though, on another point Mallik seems to contradict

himself. He says:

> During fire, nutrient elements (particularly nitrogen and phosphorus) are lost, although some of the nutrient elements return to the habitat in precipitation. Fire releases large amounts of nutrient that are normally "locked up" in the undecomposed biomass of the Boreal system. Most studies indicate an increase in available nutrients following fire.

Mallik suggests that fire both reduces and increases nutrients for vegetation. It is possible that he means to suggest that different nutrients are lost than produced; but it is also possible that he has contradicted himself. This discrepancy is the only criticism I have of the article. Mallik's slip in logic seems quite insignificant, especially compared with the highly-flawed arguments discussed in the last two chapters.

Mallik may commit only one fallacy, but he does exhibit a bias. Like the industrial foresters, he privileges forest over other vegetation that might grow up following fire. At one point he indicates that both clearcutting and fire in nutrient-poor forests "result in the degradation of forest into heathland." However, he soon returns to less emotive language, telling us that "following severe or repeated fires, forested sites may be converted into grassland, heathland, or bog."

Despite its fallacy and bias, Mallik's discourse supports his ethical appeal. In the main, Mallik demonstrates that he is "a man of sound sense, high moral character, and benevolence" (Corbett 80). His apparent good sense emerges through his understanding of the subject of fire in the boreal forest; the article is replete with information about forest and forest fire, such as the fact that the heat generated by fire "may remove toxic . . .

substances accumulated by certain plants--such as northern sheep laurel--which affect regeneration of certain conifers, such as black spruce. Ashes of the fire increase soil pH, and the blacked colour of the burned ground decreases reflectivity, . . . making the soil warmer." Mallik evinces discriminating judgment, seeming to view his subject in "the proper perspective" (Corbett 81). That is, his discourse is objective. He discusses the reasons many people prefer clearcutting to fire: "Both clearcutting and fire open up forest canopy by removing mature vegetation cover. Fire is generally perceived as a serious threat to the landscape since it clears the land by consuming mature timber and driving away, and often killing, the wildlife." Mallik seems to understand his opponents' point of view, even treating the language of industrial forestry with respect:

> To a forester, . . . allowing wildfires to do the job of forest clearing is not acceptable simply because it means loss of timber, and therefore a loss in revenue. Instead, harvesting of mature forest by clearcutting (which is most economical for logging companies), followed by planting, is the most desirable way to rejuvenate the forests. To the forest industry this seems logical, as it allows the use of valuable resources which might otherwise be destroyed by fire, and also clears the land for forest regeneration.

Mallik's objectivity suggests not only good sense but integrity; his rejection of self-aggrandizement represents a concern for the welfare of the audience. He rejects specious reasoning and the temptation to accumulate facts only in his favour. He wants to demonstrate that fire is superior to clearcutting, but nonetheless includes examples of the intense damage fire can do. While some fires prepare the seedbed by releasing nutrients from the soil and eliminating toxins found in some

groundcover, "hot smoldering fire . . . may destroy the habitat by consuming the plant seeds, soil microbial population, and by removing nutrients. Repeated fire may also make the soil hydrophobic (not allowing water to percolate), which may cause further nutrient loss by surface run off." Mallik also frequently qualifies statements, further indicating that he holds a balanced view of the matter. His researchers "believe" they understand aspects of the boreal forest (they do not pretend to have plumbed the depths of nature's secrets); "most studies indicate an increase in available nutrients following a fire," but the evidence does not entirely endorse fire as the most beneficial event in a forest.

Regardless of Mallik's bias toward forest, and the flaw in his reasoning, his article contains one of the most successful ethical pleas in the group of texts examined in this thesis. Most of his discourse convinces the reader that Mallik is sensible, moral, and benevolent. As a result of his objectivity, Mallik seems level-headed, not fanatical, and the conclusions he draws in favour of fire are quite convincing. It is much easier to believe Mallik's statements that "most researchers believe that programs of fire suppression should be redirected to programs of fire management" and "the effects of fire are not the same as clearcutting" than it has been to believe the government and industrial foresters' highly-flawed assertions that clearcutting is similar to fire.

Mallik'a argument is much more convincing than Oliver Kellhammer's in "The Canadian Landscape as Propaganda: Part One," printed in a 1992 issue of the AWA's newssheet Wilderness Alberta

Kellhammer's objection to the way in which foresters describe present forestry practices is effective, but he commits a number of rational and emotional fallacies that undermine any possibility that an ethical appeal might emerge from his rhetoric.

Some environmentalists suggest that industrial foresters have eliminated emotive terms from their discourse. For instance, as we have seen in the previous chapter, environmentalist Lorraine Johnson has suggested that foresters have taken a convincing "public service attitude," developing a façade of concern about environmental issues when, in fact, they do not have any intention of seriously addressing the issues. Oliver Kellhammer, in his article "The Canadian Landscape as Propaganda: Part 1," agrees with Johnson that foresters' language makes them seem concerned about the state of the environment: the forest industry presents itself as "the 'steward' and 'custodian' of Canadian forests--a new and improved surrogate for a beleagured Mother Nature whose trees are . . . rife with 'insects' and 'disease,' requiring the interjection of 'intensive forest management'" (Kellhammer). (Although Kellhammer wrote his article in British Columbia, he casts an eye over the state of Canadian forestry in general, and his criticisms can be applied to the forest industry in Alberta. The concept of stewardship certainly appears in the industry and government rhetoric that has been analyzed in this thesis.) Kellhammer, though, takes his criticism a step further. He suggests not only that the foresters are adding solicitous terms to their public discourse, but also that they are removing emotive language,

concocting a demulcent vocabulary to take the sting out of the truth about forestry in Canada. He quotes federal forestry minister Frank Oberle, who apparently sanctioned a rewriting of

> '(forest) industry vocabulary' through a 'public education campaign' to eliminate any terms that might 'have an emotional impact on the layman', thus enabling government and industry to 'assure everyone of the high standards of Canadian forest management practices.' (14)

An examination of industrial and governmental texts demonstrates that forestry rhetors are indeed, on occasion, sensitive to the public impact of emotive terms. Government rhetors generally embed the emotion-laden term "clearcut" in lengthy exonerations of commercial harvesting, attaining a soothing tone through neutral language and layers of imagery. Reforestation: Planning for Our Future Forests covers the baldness of "clearcut" with words and images: "The clear cut harvest system . . . is generally used to regenerate trees requiring full sunlight; produce areas with trees of similar age; utilize timber in an area infested by pests or diseased wood; or, improve the utilization of trees for commercial use. It also emulates forest fires." This paragraph relies on the half-truth that clearcutting imitates fire and other forms of natural clearing, and rescues nature from itself when disease of pests are out of control. Moreover, the rhetor inserts, here and there, two unnatural reasons to clearcut: to produce trees of similar ages and to improve the use of trees for industry's use. These reasons to clearcut are not hidden in the paragraph, but they are jumbled together with the arguments that link clearcutting and nature

and might be overlooked or misinterpreted as natural themselves if not sorted out from the other reasons. As well, a shadow is thrown over the prose by the author's frequent use of polysyllabic verbs such as "utilize" instead of "use." The word "harvest," in the clause "clearcut harvest system," implies that forests are crops, grown for human use, that might go to waste if not gathered in time.

A Growing Opportunity defines clearcutting by repudiating logging methods that leave trees standing. The author states that the provincial government has legislated improved, environmentally-sound logging techniques to replace such selectivity in logging:

> Early loggers cut only the best trees and left the rest. This wasteful practice created an environmental problem as the debris and wind-toppled trees attracted insects and disease. Today Alberta Forestry, Lands and Wildlife has developed, in co-operation with the forest industry and environmental agencies, some of the most effective environmental protection legislation in Canada.

This rhetor has circumvented the emotive "clearcut," but the astute reader will likely realize that it is the implied alternative to selective logging. But, before the reader can fix in his mind the image of a bald hillside, the author deftly defuses the issue by pledging that trees will be replaced as quickly as they are logged. He assures us "forest renewal work begins even before the trees are cut down," producing the image of a new forest popping out of the ground the moment logging begins.

Whereas some industrial writers, such as Wayne Thorp, use the word "clearcut" liberally, others avoid the word altogether. The author of

the Forestry Discussion Paper defines Alberta-Pacific's logging system as "the removal of most of the merchantable trees from within well defined areas (cutblocks) at one time" ("Harvest Systems"). The image of a clearcut area is mitigated by the presence of "most of" and the tacit suggestion that, if merchantable trees are cut, the others are left. The Forestry Discussion Paper, however, draws a parallel between clearcutting and fire. Since fire frequently removes all vegetation, it is not difficult to interpret Alberta-Pacific's harvest method as clearcutting.

Although Kellhammer does not accuse the foresters of obfuscation, the attempts by industry authors to remove or rephrase emotive terms often result in obscurity. Industry rhetors are more likely than government authors to obstruct their meaning by rephrasing to avoid emotion-laden language, as in this sentence from Reforestation: "Criteria which must be served by the process . . . [of commercial forestry] include maintaining and enhancing the productive capacity of the forest resource and in doing so, harvest in an economical fashion to consider global competition while accomplishing the first." The language in Alberta-Pacific's Forestry Discussion Paper is particularly cumbersome. The rhetor tells us:

> Forest ecosystem management integrates timber harvest regimes within the bounds of natural disturbance regimes to ensure that biodiversity and ecological processes are maintained. . . . Important ecological functions such as fire, weather and disease serve to integrate the composition and structure of the forest and its wildlife. ("Ecosystem management")

This explanation is meant to define, but actually occludes, "forest ecosystem management." This writer's language is both redundant--"composition" and "structure" are synonymous--and inaccurate. A "regime" is a ruling system; since "natural disturbance" is generally random, "natural disturbance regime" becomes an oxymoron. As well, the concept of integrating "timber harvest regimes within the bounds of natural disturbance" implies either that industry logs trees in areas affected by fire, weather and disease, or imitate conditions created by a variety of natural disturbances, not just fire. Kellhammer's observation on the nature of the foresters' rhetoric supports an ethical appeal: Kellhammer seems to be reasonable and wise, and concerned that the audience should not be fooled by what it reads.

Perhaps in reaction to what he might consider forestry's balsamic emptiness, Kellhammer takes an adversarial, even incendiary, tone: "At present the forest is serving the needs of corporate capital. The result of these needs is wholesale forest destruction." Ironically, Kellhammer's strong, adjectival language, meant to separate him from his opponents, actually associates him with the foresters because his meaning, like the foresters', is occasionally obscured by elaborate, passive verbiage. Kellhammer tells us that the "very existence . . . [of the forests] serves as a link to a pre-industrial, non-meditated past and can often arouse deep-seated emotions incompatible with contemporary mass-industrial paradigms." Overall, this sentence has the ring of an amateur psychologist's attempt to dazzle his audience. Kellhammer seems to be

trying to elevate his prose; but in doing so he raises it out of the reach of the popular audience. In his attempt to empower his writing, Kellhammer has abandoned accessible, emotive language and damaged his appeal as a rational man.

Kellhammer's ethical appeal is undermined by more than a few dark passages. His article is marked by two faulty causal generalizations: he argues from effect to cause, but he fails to "take into account the fact that there could be more than one cause" for each effect (Corbett 76). First, he states that the Red Squirrel logging road in the Temagami wilderness of Ontario "has become the most heavily subsidized logging road in Canadian history" because the forest industry and provincial government intended to use it to extirpate the Temagami forest in order to "rewrite Ontario's ecological history by destroying one of the last symbols of an ecological past" and were "eager to marginalize" an aboriginal tribe that has claimed the land. Second, Kellhammer tells us that, in 1990, Macmillan Bloedel convinced the city of Vancouver to allow it to replace with native evergreens five thousand deciduous trees that have grown up since the area was logged a century ago. In Kellhammer's view, this replacement of deciduous trees with evergreens was meant to establish a hegemony: "the only plausible rationale . . . is that of corporate branch identification. "'Mac-Blo' wants to place its corporate indentity or trademark on the only bit of nature left for most Vancouverites. . . . [N]ature becomes a 'theme' with which to promote the corporation." Kellhammer has overlooked the possibility that there might be other

causes for these effects than those he cites. It may be, for example, that the government of Ontario subsidized the Red Squirrel logging road in order to participate in profits from logging, but had no intention of making the ecological and racial statement of power that Kellhammer suggests. Perhaps the city of Vancouver felt that Macmillan-Bloedel's gesture was intended to return the area to its original condition, considering that it had been altered by the outdated forestry practices of the last century. Rather than focus on the theme of hegemony, Kellhammer might have called Macmillan-Bloedel's action an example of implied corporate guilt, or even a diversionary tactic meant to draw attention away from its involvement in logging in other forests.

Kellhammer's article relies heavily on emotional pleas, which generally become arguments *ad populum*, "the tactic of appealing to irrational fears and prejudices in order to prevent audiences from squarely facing the issues" (Corbett 79). Kellhammer's critique of corporate language, examined earlier, now becomes rather extreme. Kellhammer suggests, for example, that the forest industry has the power to plunder English of its descriptive power and rob us of our ability to conceive of the harm in harvesting:

> The corporate sector, in collusion with various levels of government, has . . . launched a sophisticated propaganda campaign aimed at denying the catastrophe . . . [industrial forestry] and attempting to reprogram our basic forest concepts. Thus, by the time the catastrophe is complete, most Canadians will no longer possess the frames of reference necessary to describe forest destruction in a meaningful way. (14)

Kellhammer seems to want to stir up a fearful feeling of helplessness in the face of propaganda by suggesting to the reader that the world is putty in the hands of corporate advertisers.

Kellhammer also plays on a perception that might be shared by activists: based on the fact that protesters of environmental crimes have been jailed but the crimes themselves have gone unpunished, activists might be easily convinced of the belief that the judicial system privileges the status quo over environmental issues. Kellhammer tells us that, when an environmental or aboriginal group contests the right

> of . . . [a] corporation to denude a piece of landscape and the watersheds it may contain, . . . the industry simply responds that its "tree-farm" licenses are being threatened. . . . Inevitably, this strategy arouses the sympathy and support of the legal system which is already strongly predisposed to emphasizing property rights over human rights.

Kellhammer evinces, and apparently aims to induce in the reader, a general fear of the power structures in western culture. This fear culminates in an invocation of George Orwell's 1984. Kellhammer tells us "what emerges . . . [from industry and government] is a strange new Orwellian language which we might call 'ForestSpeak'" (akin to Orwell's "NewSpeak"), and quotes a small section of the novel in which O'Brian's memory has been erased by the government's propaganda campaign:

> Winston: "But it did exist? It does exist! It exists in memory.
> I remember it? You remember it?
> "I do not remember it," said O'Brian.

Although there are plenty of historical examples of the human desire for

control, 1984 is a work of fiction that imagines power and powerlessness in the extreme. Kellhammer might only be suggesting that propaganda can subvert truth, but comparing such a compelling, frightening novel and the efforts of industry and government to produce convincing arguments, or to promote a vocabulary in their own interests, suggests that the public is on the verge of being subjugated by corrupt forces and might stir feelings of fear in some members of the audience, preventing them from rationally considering the issue.

Kellhammer might hope to appear considerate of the reader's welfare by offering a warning about the forest's adversaries. Any attempt at an ethical appeal, however, is undermined by the rational and emotional fallacies that mark his discourse. He does not impress as a man of good sense: his reasoning is flawed, his appeals to emotion are designed to induce hysteria, which suggests that he is not above using unscrupulous tactics to persuade his audience, and his accusatory language implies that he does not see the issue in the proper perspective.

In general, emotional pleas are more common in the environmentalists' literature than the foresters'. Industry and government hope to convince the audience that their treatment of the forest is reasonable, scientifically sound, and in the best interests of the forest and the public. The environmentalists, whose literature often takes the form of rebuttal to their opponents' assertions, must either disprove the foresters' arguments with facts, as Mallik does, or oppose reason with emotion, as Kellhammer does. Rather than simply produce the sort of

emotional plea identified by Aristotle--such as the appeals to fear, envy, or emulation that we have seen in the literature thus far--some activists also invoke the philosophy that underlies the environmental movement, creating a vision of man-a-part-of-nature to rival the logger's man-in-charge-of-nature, just as Logging on Private Land did. Kevin Van Tighem is such an activist.

Van Tighem has written two articles, "Posterity Will Bless Us" and "Beyond 1990: Last Chance for Alberta's Wilds," which represent the environmentalists' emotional appeals for conservation. In "Posterity Will Bless Us," one of the arguments Van Tighem offers in favour of conservationism is similar to the foresters' assertion that improved forestry practices will benefit Albertans today and in the future. He writes: "If there is a future for the Milk River, for the . . . willets and wilderness, then there is a future worth entrusting to my children. There is a future for Alberta. Because they are all the same thing, all part of one another. They will become the same future" (15).

As opposed to the forest industry's man-in-charge-of-nature, Van Tighem offers a Darwinian vision of man as part of nature, mitigated by the Romantic belief that man and nature are in communion: "We are inseparable from our environment. . . . Why else do we feel so passionately for Alberta's remote . . . wildernesses? . . . Because those places are who we are" (16). Van Tighem correlates the mysteries of nature and religious feeling. "Creation," he suggests, "is inscribed upon our souls" (16). He urges the audience to celebrate the benefits of the natural

world, perhaps one of the oldest and most powerful religious concepts, and tells us being in nature allows us "to be woven into a work of art so immense . . . that we can never hope to comprehend the Art, let alone the Artist" (16). His final statement conflates religious feeling, nature, and conservation:

> When ranchers near Pincher Creek persuaded Canada's minister of the interior in 1895 to set aside Waterton Lakes National Park as a legacy for future generations, he wrote: 'Posterity will bless us.' He was right.
> It will bless us, too, if we act now. (16)

In locating man as a creature intuitively attached to nature, Van Tighem also plays upon nationalistic feeling: we feel connected to our wilderness, he says, "because it is Alberta that makes us Albertans. By seeking to preserve some of Alberta's natural diversity, we do not defend something abstact or idealized. We defend . . . our very identity" (16).

Van Tighem's neo-Darwinian message in "Posterity"--that if we injure the wilderness we injure our humanity--in "Beyond 1990: Last Chance for Alberta's Wilds" is also articulated as a call to man to take up his role as keeper of the earth. Van Tighem calls for "the thoughtful and ethical stewardship of Alberta's wildlands, wildlife and natural heritage" (3), essential to our well-being because "if we fail to show respect to the land that sustains us, we fail to respect ourselves. If we sell off our wildlife and our forests to the highest bidder, we run the risk of selling our souls."

Whereas in "Posterity" Van Tighem simply offered the reader the power to save the world, in "Last Chance" he appeals to the reader 's fear. Feelings of fear are inspired by the implication of the potential for

destruction or suffering, together with the "hope of being saved from the cause of agony" (Aristotle 141); fear is generally increased if the speaker can show the audience that "there are others like them suffering [now] (or who have suffered)" (141). Van Tighem does these very things:

> Alberta is one of the finest places in the world.
>
> But there have been other places equally as fine. They, too, were taken for granted. Those who lived there came to believe that the rivers would always be clear and sweet; that clean winds would always whisper in the branches of endless forests; and that wildlife and wild places would always be there. Today Albertans are stewards of much of the best of what remains of a sick and wounded planet.

Clearly, others have suffered--and are suffering now--for not opposing the powers that would destroy the land; but there is still hope that fear of the same suffering will encourage the reader to act now to prevent it.

Van Tighem's appeal to fear is quite successful not only because it does not become an argument *ad populum*, but also because it is relatively mild. As Janis and Feshbach suggest, a moderate plea increases the likelihood that the reader will remember and accept the warning. As a result of Van Tighem's temperate approach, his ethical appeal, in turn, succeeds. Van Tighem's ethical appeal is unique among the texts investigated in this thesis. His anecdotal, personal style of writing makes him much more accessible than any of the other writers. He seems to know his subject--the wilderness--because he immerses himself in it out of pure love; describing his trip down the Milk River, he says: "The smell of wolf willow, the wind, . . . the call of a goldfinch, . . . everywhere I

turned were things that were meaningful to me" (15). His appearance as a man of virtue and good will is increased by his moderate appeal to fear: he has no apparent desire to make his audience unduly uncomfortable. Van Tighem's ethical appeals succeed in promoting his message, an endorsement of the Romantic vision of nature.

Oliver Kellhammer's article "The Canadian Landscape as Propaganda: Part One" criticizes the way in which industrial and governmental foresters use language. Judging from the texts surveyed in this thesis, Kellhammer is right to suggest that many industrial foresters prefer to present themselves as custodians of needy, failing forests, avoiding such emotive terms as "clearcut." Their attempts to soften their language sometimes causes the foresters to obscure their meanings, although it must be noted that the activist's strong language can lead to a similar difficulty. As well, the environmentalists' arguments, like those of the industrialists, can be marked by rhetorical fallacies. In particular, the appeal of Kellhammer's character is undermined by his rational and emotional fallacies. By contrast, Azim Mallik's "The Role of Fire in the Boreal Forest" is ultimately quite convincing, creating a successful ethical appeal despite Mallik's violation of the law of contradiction and the bias he demonstrates at one point. And in "Posterity"and "Beyond 1990: Last Chance for Alberta's Wilds," Kevin Van Tighem builds, upon one aspect of environmental philosophy, strong emotional and ethical appeals.

Chapter Six:

Conclusion

The public documents concerning logging in Alberta's boreal forests are important to the future of Alberta's wilderness because they represent efforts to manipulate the public's perception of forests and forestry toward an attitude of either consumption or conservation. Such attitudes are embedded in the philosophical traditions of the West; the wood-products industry, the federal and provincial departments of forestry, and environmental activists appeal, more or less tacitly, to streams of thought that seem always to have marked the Western intellectual landscape. Environmentalists Azim Mallik, Oliver Kellhammer and Kevin Van Tighem represent the view that man is not necessarily more important than the rest of nature, a philosophical position combining Darwinism, Romanticism, and the concept of stewardship. The Epicurean belief that all creatures, including man, are equally important in the scheme of things, restated by Darwin and his successors, has become an aspect of conservationism and environmental protection. Environmentalists, though, value nature for both its intrinsic and its extrinsic merit, for both its inherent meaning and also the meaning it offers the human spirit. They envision man in communion with nature, in a near-religious way. Activists believe that, in conserving nature, man preserves his own best qualities.

The concept of stewardship forms one of the few bits of common

ground between environmental activists and foresters. Such common ground, however, is not extensive, because of the distance between the two groups' views of environmental management. Whereas activists want to protect the forest, foresters tend to conscript it into the service of two other conceptions of the environment that form the forest industry's extrinsic-value philosophy of nature. First, the foresters suggest that nature is passive material meant to increase man's material comfort: they promote tree-farming, genetic tampering, and the widespread use of wood as though it were essential to the physical survival of every Albertan and the economic future of the province itself. Such a utilitarian view of nature emerged after the Greek Enlightenment. Once the concept of *hubris* had been mitigated, philosophers were able to idolize man and situate nature as a gift to mankind. The anthropocentric view of the natural environment became an aspect of Christianity and, later, a trait visible in the work of such philosophers as Descartes, Kant, and Mill. Second, the foresters locate man as both a manager and a creator of the world; according to this view, the forest requires the human touch in order to actualize its potential. This way of thinking was encouraged by such logicians as Bacon and Locke and emerged in the philosophy of the German idealists Hegel and Fichte. It appears in the analogies, meant to convince the reader that clearcut logging is both necessary and environmentally sound, presented by Albertan foresters: the connection of forestry and gardening, the parallel between the effects of clearcutting and the effects of fire, and the suggestion that wood, like wheat, is a life-

sustaining and essential product.

But we have seen these foresters' analogies collapse under scrutiny. Do they fail because the Cartesian-Hegelian conception of nature is somehow inherently weak? The industry's view of forests can certainly be criticized from a conservationist standpoint: activists might argue that the forestry rhetors overlook questions about the environmental consequences of clearcutting. Concerned with self-promotion and self-defence in the face of opposition, foresters neither address alternatives to, nor difficulties with, the practices of the wood-products industry: the forestry boom might attract money--and bright young minds in search of careers--that could otherwise have gone toward research into alternative materials to wood or, at least, toward research into ways of recycling the wood that has already been cut so as to slow the current rate of deforestation. In fact, conservationists might suggest that the forestry industry's promotion of human intervention in forests and human reliance on wood products has global implications: Western foresters may be among the most responsible in the world, but they nonetheless show developing countries that their first-world mentors believe the environment must serve economic interests. Industry can also be criticized from the Darwinian-Romantic perspective: in treating the forest as passive material to be used to increase our personal comfort, we sever important ties between our spirits and the natural world and will never realize our full potential.

Although the Romantic view, which suggests that the natural

world must be protected from our ignorant meddling, is rather more humble and less anthropocentric than the Cartesian-Hegelian view, most likely the reader's personal beliefs will determine whether he agrees that man must privilege and protect the natural world. Given the example of the industrial foresters' literature, people of a certain philosophical bent believe that nature is meant to serve mankind. It is intriguing to note, however, that the three texts which offer successful rhetorical appeals all take a Romantic view. Logging on Private Land, one of the pamphlets jointly produced by the federal and provincial government, Professor of Plant Ecology Azim Mallik's The Role of Fire in the Boreal Forest, and environmentalist Kevin Van Tighem's "Posterity" and "Beyond 1990: Last Chance for Alberta's Wilds," undermine the insistence, by industrial and governmental rhetors, that clearcutting is a sound, natural practice. They argue convincingly in support of the Romantic vision of nature and contradict the consumptive attitudes evinced in the other pamphlets produced by government and industry.

The Cartesian-Hegelian conception does not meet with such success, not necessarily because it is inherently weak and does not warrant adherents, but because these foresters invoke it dishonestly. They are under no obligation to enunciate the historical assumptions to which they appeal; rhetoric is, after all, based on belief, which need not be explained. But the forest rhetors are responsible for the way in which they appeal to our assumptions. Too often they try to invoke both consumptive and conservationist ideals in the same breath. For instance, on the one hand

they justify clearcutting by insisting that it conserves the forest just as nature does; on the other hand, they tell us that clearcutting improves on nature. This confusion of philosophies results in arguments that are illogical and deceptive.

Especially where environmental issues are involved, it is essential that the reader be able to identify specious discourse in the propaganda with which he is bombarded. The application of classical rhetoric to modern, public documents is useful because it is one way of increasing the critical skill of the audience. The persuasive strengths and weaknesses of each argument, then, can be understood through rhetorical strategies identified by Aristotle, and the pertinent fallacies discussed by Edward Corbett. In their efforts to persuade the audience, the authors employ deliberative discourse and the rhetorical strategies of the rational, emotional, and ethical appeals. A rhetor does not need to include all three types of pleas in one argument; rather, he must only avoid fallacies in the particular appeals he employs if he hopes to create a convincing argument. Fallacies in rational and emotional appeals not only undermine the persuasive power of the argument itself, but also irrevocably damage any hope that the rhetor will appear to be of good character. As I have suggested, a reader will not necessarily be convinced to take a certain point of view simply by reading a strong argument. His personal biases will strongly affect his attitudes. Nonetheless, a reader might suspect the intention of a writer with whose views he basically agrees, but who argues weakly.

As an example, I offer my own reaction to environmentalist Oliver Kellhammer's article "The Canadian Landscape as Propaganda: Part One." Kellhammer's criticism of forestry is intensely flawed by specious rational and emotional pleas, which destroys Kellhammer's appearance as a sensible, virtuous and benevolent man. Even though I agree that we ought to suspect the actions of corporate interests in the forests, I felt (1) that Kellhammer did not believe I would draw the correct conclusions from a logical argument and therefore tried to force a conclusion upon me, and (2), that he did not believe his material could support a logical argument and felt he had to dramatize it. This did not lead me to believe the opposite argument (equally flawed), but, rather, to question Kellhammer's authority as an environmental writer, and to ask why the newssheet would publish such a piece of work. Clearly, then, an understanding of classical rhetoric is useful to writers and publishers as well as readers because, ultimately, fallacious arguments and failed ethical appeals reflect upon the group that distributes the document. Flawed rhetorical appeals in Oliver Kellhammer's work reflects first upon him, next upon the publication in which the article is found, and finally upon activists in general. Wayne Thorp's inaccuracies reflect first upon him, next upon his company, and finally upon foresters in general. The effect is the same, whether or not an article actually carries an author's name. The Forestry Discussion Paper reflects its errors upon Alberta-Pacific Forest Industries and the forest industry that supports the company in its practices. Fallacies in Reforestation: Planning for our Future Forests and

Key Issues Relating to the Alberta Forest Industry, produced by the Alberta Forest Products Association, immediately sully the image of the entire forest industry. Most of the documents produced by the federal and provincial departments of forestry, all anonymous, appear to affirm that the opinions and practices of the present governments are pro-industrial.

Conversely, a successful rhetorical endeavor reflects well upon the group to which the author belongs. Appeals that are flawless, and appeals that are only mildly flawed, are quite persuasive: Logging on Private Land, Azim Mallik's The Role of Fire in the Boreal Forest, and environmentalist Kevin Van Tighem's "Posterity" and "Beyond 1990: Last Chance for Alberta's Wilds" offer convincing arguments. Despite a small lapse in reason in Logging on Private Land, and despite Mallik's violation of the law of contradiction and the bias he demonstrates at one point, both rhetors nonetheless seem to be men of good sense, virtuous and benevolent. For his part, Van Tighem relies on emotional pleas, appealing mildly to fear and strongly to the philosophical belief that underlies environmentalism and creating an effective ethical plea. As a result of these successful rhetorical efforts, the federal and provincial governments and the environmentalists appear to be more successful than the forest industry in the bid for the reader's trust and for control over the future of Alberta's forests.

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